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SPEECH MONOGRAPHS

VOLUME XXVI

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No. 4

THE *TYRANNICIDA* OF ERASMUS: TRANSLATED EXCERPTS WITH INTRODUCTION AND COMMENTARY

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PART I: INTRODUCTION

THE TYRANT IN HISTORY AND LITERATURE

THE tyrant as an authentic historical figure appears in extremely early Greek times. Writers ancient and modern agree that the age of hero-kings was succeeded by the age of tyrants, who usually won power as champions of popular movements and then usurped the prerogatives of earlier dynasts. The eighth, seventh, and sixth centuries B.C. saw the rise and fall of many a tyrant. The lyric poetry of that period reflects the situation; Alcaeus, for example, exults over the downfall of Myrsilus of Lesbos, and the skolon or drinking-song in praise of Harmodius and Aristogiton celebrates their slaying of Hipparchus at Athens so late as 514 B.C. Subsequent Greek literature dealt copiously with tyrannicide; Craig R. Thompson notes its treatment by such eminent writers as Xenophon (in an imaginary conversation between Simonides and Hiero of Syracuse), Plato (*Republic* viii and ix), and Aristotle (*Poetics*, especially v. 10 and 11).¹

TYRANNICIDE AS A THEME FOR DECLAMATION

One need not wonder, perhaps, that a topic so deeply rooted in the histor-

ical and literary tradition should gain a firm foothold in the rhetorical repertoire as a theme for declamation, but it seems reasonable to seek an explanation of its extraordinary vitality, inasmuch as debate centering upon tyrannicide flourished long after tyrants (in the sense of usurping rulers of independent Greek states)² had become only a dim memory. Tacitus, for example, (*Dialogus* 35), deploring the use of themes remote from real life, gives first place in his catalog of inept subject matter to *tyrannicidarum praemia*, the rewards conferred upon tyrant-slayers, and Juvenal (*Sat.* 7. 151) alludes to tyrannicide as one of the hackneyed subjects for school exercises: *perimit saevos classis numerosa tyrannos* (the crowded class dispatches cruel tyrants).

It may be said flatly that no ethical conflict is responsible; never is the right to take human life questioned when a tyrant is the victim. A view rather widely held, and certainly tenable, is that tyrant themes permitted the only fea-

¹ *The Translations of Lucian by Erasmus and St. Thomas More* (Ithaca, N. Y.: privately printed, 1940), p. 41.

² Liddell and Scott's lexicon emphasizes that the term connoted the irregular way in which an absolute ruler came to power (by force or fraud), rather than the way in which the power was exercised, so that a moderate like Pisistratus was termed a tyrant, while the Persian despots were always referred to simply as kings. "However," it adds, "the word soon came to imply reproach, and was then used like our *tyrant*, as in Plato, *Gorgias*, 510 B, *Politeia* 301 C, and in Sophocles, *Oedipus Tyrannus* 873."

sible protest against contemporary absolutism; Anouilh's *Antigone* may document this assumption for our own time. M. L. Clarke considers the lurid themes of declaimers under the Roman Empire a kind of reaction against the tranquillity established in the real world by Augustus and his successors.³ I am disposed to believe that two other causes operated powerfully to reinforce the popularity of tyrannicide as a subject for scholastic exercises: first, the exceptional opportunity it afforded for elaboration of *ethos*, or character-portrayal;⁴ second, the close relationship which could be invoked between the *status* doctrine and either the act of tyrannicide or the reward sought for it.⁵

APPLICATION OF THE STATUS SYSTEM TO LATIN DECLAMATIONS ON TYRANNICIDE

Advocates of the *status* system, including Cicero⁶ and Quintilian,⁷ held that every judicial case rested upon one of three issues: whether an act had been committed, or how it should be defined, or how it should be qualified (*an sit, quid sit, quale sit*). This approach is well suited to cases in which the assassination is the central concern, but of course

does not adapt itself to all declamations dealing with the topic. Seneca, for instance, often makes tyrannicide a mere incident in a case turning on other issues, as in *Controversiae* ii. 5, where ingratitude is charged against a tyrannicide who had divorced his wife for barrenness, although under torture by the tyrant she had denied knowledge of any design against his life, or *Contr.* iii. 6, in which a property-owner sues for damages because the tyrannicide had chased his victim into the plaintiff's dwelling and destroyed him by burning down the house, or *Contr.* ix. 4, where a father defends his son against a charge of striking him, which the youth had done at the command of a tyrant whose friendship he thus gained, subsequently achieving his design of tyrannicide.

CONJECTURE

Certain other themes, however, focus primarily on the killing. Thus, Quintilian (*Institutio Oratoria* vii. 2. 25) builds a case upon the rival claims of two physicians. One had entertained a tyrant at dinner; the latter, suspecting that he had been poisoned, summoned a second doctor, who confirmed his suspicions but administered a presumed antidote; after the tyrant expired in agony, each alleged that he had done the poisoning. The *status* here is of fact (*coniecturalis, an sit*), and the crux of the case lies in who performed the deed.

DEFINITION

The declamations more often involve definition. An identical problem is raised by Seneca (*Contr.* vii. 4) and by Quintilian (v. 10. 36), whether a man who, caught in adultery by a tyrant, wrested a weapon from him and slew him, could claim the title and reward of a tyrannicide. Similarly, two cases in pseudo-Quintilian (*D. Min.* 345 and

³ M. L. Clarke, *Rhetoric at Rome* (London: Cohen and West Ltd., 1953), p. 91.

⁴ Donald Leman Clark, *Rhetoric in Greco-Roman Education* (N. Y.: Columbia University Press, 1957), p. 222, cites a passage from Lucian's *Of Pantomime* which stresses the need for the declaimer to suit his language to the character he is assuming, and specifically mentions the tyrannicide. But Clark introduces the reference in connection with *suasoriae* rather than *controversiae*, and in my opinion the declaimer must have found the opportunity for *ethos* greater in dilating upon the wickedness of the tyrant than in plausibly recreating the tyrannicide.

⁵ Clark (*op. cit.*, pp. 235-250) applies the *status* doctrine to a wide range of *controversiae*; I mean only that tyrannicide was a theme which lent itself peculiarly well to such handling.

⁶ *De Oratore* ii. 24. 104 and ii. 26. 113; *Partitiones Oratoriae* 9. 33; *Orator* 14. 45; *Topica* 21. 82 and 24. 92.

⁷ *Institutio Oratoria* iii. 6. 80.

382) debate the counter-claims of a rich man and a poor youth, of whom the former had instigated the slaying and paid money as an inducement, the other had actually carried out the assassination; the phrasing of the law is more arguable in the second case, where it reads: *Cuius opera tyrannus occisus fuerit, praemium petat* (The man by whose agency a tyrant is killed may seek reward), rather than the customary pseudo-legal formula: *Tyrannicida optet, quod volet* (A tyrannicide may choose what he will).

QUALITY

Most frequently the *status* concerns quality. For instance, Quintilian asks whether Thrasybulus should receive thirty rewards for ridding Athens of the Thirty Tyrants (iii. 6. 27), and whether the slayer of two tyrants should receive double reward (vii. 8. 3). The question of a specific reward is raised in vii. 7. 5, where two laws are in conflict, of which one orders the likeness of a tyrannicide to be set up in the gymnasium, and the other forbids the statue of a woman to be put there. There is a curious resemblance between this example and one which occurs in pseudo-Quintilian (*D. Min.* 282) concerning a suit *iniuriarum* lodged by a tyrannicide against a magistrate for erecting a statue of him in woman's attire, ostensibly as an honor, but considered by him an insult, since he had gone to the citadel dressed like his sister, whom the tyrant had summoned there to debauch. A further example of quality *status* may be seen in pseudo-Quintilian, *D. Min.* 288, which submits to scrutiny and debate the choice of reward by a father who had slain two of his sons as tyrants, and now asks the banishment of the surviving brother; since it is assumed that the youth is suspect, though not

overtly guilty, the issue is whether the interests of the state would be prejudiced by assenting to the demand. *D. Min.* 374 does not involve a reward from the state, but poses the question of the right to inherit. A son, cast off by his father for refusing to slay a tyrant, on learning that the deceased parent's will had designated as heir whoever gratified this wish, belatedly performs the deed, but is challenged by the claim that no disinherited child may benefit from his father's estate.

A borderline case which could be argued under either quality or definition concerns an ostensibly historical event;⁸ in Cicero's *De Inventione* (ii. 49. 144), the widow of Alexander of Pherae, who had slain her tyrant husband in bed, seeks to exercise her theoretically unlimited right of choice to ask that their son be spared, in the face of a law requiring the execution of a tyrant's five closest blood-relations. Innuendo, in addition to insistence on the conflict of laws, would almost certainly have been employed against her claim.

GREEK DECLAMATION ON THE TOPIC

Although the tyrant is drawn from Greek life, and rhetoric came to Rome from Greece, no extant Greek manuals and treatises throw much light on scholastic themes until the second century of the Christian era, the age of Quintilian. Hermogenes' work on invention, which dates from this period, sets for debate the case of a tyrannicide who performed his exploit while insane and claimed reward after being restored to sanity.⁹ Like the second group of Latin examples, this case must be adjudicated by definition, and concerns a claimant whose title is questionable.

⁸ Distortions of fact and law are particularized by Clark, *op. cit.*, p. 231.

⁹ In L. Spengel, *Rhetores Graeci* (Leipzig: Teubner Press, 1854), II, p. 230, line 11 through p. 231, line 8.

LUCIAN'S TYRANNICIDA

Both logically and chronologically, the *controversia* of Lucian entitled *Tyrannoktonos* (i. e. *Tyrannicida*) demands discussion at this point. Donald Leman Clark's chapter on declamation cites and analyzes it as a clear example of treatment by definition.¹⁰

The circumstances set forth in the prefatory theme are as follows: the petitioner is a citizen who has made his way into the fortress of a tyrant, slain the watch and guards, dispatched the tyrant's son, and then withdrawn, leaving in the latter's body the sword with which he has done the killing. The tyrant, overcome by grief on discovery of the corpse, has used the same weapon to take his own life. The claimant is challenged on the ground that he has not satisfied the requisite conditions and is not truly a tyrannicide.

The chief argument brought to bear by Lucian (in behalf of the claimant) are these:

1. The demand is in reality modest, for the claimant had slain two tyrants (father and son), and might reasonably have asked a double reward (Sect. 1).
2. His adversary is motivated by grief over the death of the two despots (Sect. 3).
3. The son was the true tyrant, for the father had grown old, enfeebled, and sated, whereas the young man was vigorous, immoral, and uncontrollable in his lusts; the son was also the tyrant's heir, and his survival would have left the state still under the heel of a despotism (Sect. 4-5).
4. *Causa mortis* may properly be equated to killing (Sect. 11).
5. The claimant, if his action had been illegal, would have incurred the same guilt for furnishing the impulsion to suicide as if he had actually killed; why, then, since his action was lawful and laudable, should he not receive corresponding credit (Sect. 12).
6. His patriotic motivation is incontestable (Sect. 16).
7. His courage was proved by the desperate

struggle which he put up in slaying the tyrant's hirelings and son (Sect. 16).

8. He left the sword purposely, preferring that the tyrant should die by his own hand, and convinced that he would use it to end his life (Sect. 17-18).

LATER HISTORY OF LUCIAN'S TYRANNICIDA

This declamation, like nearly all of Lucian's writings, arrests attention by audacity, imagination, and paradox. It is not surprising to learn that his theme and arguments were subsequently imitated by the fourth century rhetorician Libanius and the sixth century Choricus.¹¹ But the enduring interest of the *Tyrannicida* is best attested by the fact that it was translated into Latin and answered with rebuttals by Desiderius Erasmus, the great Renaissance humanist, and Thomas More, renowned churchman and author of *Utopia*, in the year 1506.

Thompson, in the study previously mentioned,¹² not only furnishes a summary of the original theme and development in Lucian, but provides précis of the replies by Erasmus and More, comparison of their style and treatment, and discussion of the aims which had inspired this literary *tour de force*.¹³ On the latter point, Erasmus speaks for himself, when in his dedication to Richard Witford he expresses his admiration for such practice exercises and declares that if they were cultivated concurrently with theory drawn from Quintilian and Cicero they would rectify the incapacity for eloquence which he terms characteristic of his times. The same preface lends support to Thompson's view that it was More who conceived the idea of

¹¹ Cf. A. M. Harmon, *Lucian, with an English Translation* (Cambridge, Mass.: Harvard University Press, 1936), p. 443 (preface to the *Tyrannicida*).

¹² Note 1 *supra*; my attention was first directed to this work by a footnote in Clark, *op. cit.*, p. 241.

¹³ *Op. cit.*, pp. 29-41.

¹⁰ *Op. cit.*, pp. 240-241.

composing rejoinders to Lucian's declamation, for Erasmus states that he undertook the task not with any expectation of equalling or surpassing such a craftsman as his friend (their intimacy dated from Erasmus' first visit to England in 1499), but merely that *in hac ingeniorum palaestra quasi colluctarer* (I might, so to speak, wrestle with him in this contest of wits).

JUSTIFICATION FOR EXCERPTING FROM ERASMUS' VERSION

The antiquity of tyrannicide as a theme, the direct indebtedness of More and Erasmus to a classical model, the necessary conformation of their replies to the rhetorical framework of this original, and the interest of seeing how skillfully they could draw upon the legal lore, speech division, and declamatory conventions of the genre seemed to me adequate warrant for supplying in part the lack of any published translation. More's text might have been reproduced in full, whereas Erasmus', four times as long, is obviously too diffuse for more than excerpting, but the latter provides greater color from its abundance of examples, figures of speech, and allusions, and I have therefore preferred to present this, even in a truncated version. The figures and letters at the beginning of each excerpt correspond to the divisions by column and section in J. Leclerc's edition of Erasmus' complete works, published at Leyden, 1703-1706. I have endeavored in the interests of faithfulness to adhere as closely as possible to the sentence patterns of the original, even when the periods may seem to modern taste excessively long and cumbrous.

PART II: TRANSLATED EXCERPTS 271 E-272 E

If I had to plead this case, gentlemen of the jury, before an assembly of the

people, which is habitually influenced by its passions rather than by reasoned appraisal of the facts, instead of before a jury drawn from the most respected classes, men patently most serious and wise, I should assuredly entertain some fears that while everyone's spirits are transported and (if I may put it so) leaping at this new and unexpected joy, I might have an audience indifferently attentive and responsive. Still less [should I hope for] a favorable and well disposed one, since to those who look only upon the outward aspect and, so to speak, the mask of this business, and do not regard its real features more closely, I may appear, amid the universal joy of the whole city and in a case so productive of one-sided sympathy, to be raising, as it were, a dissonant voice and stirring up strife churlishly. For though every emotion is useless in arriving at a right judgment,¹⁴ vast, immoderate, and overwhelming joy in particular is wont not merely to take away all discernment utterly, but not infrequently also to rob us of self-awareness, especially if, like this happiness of ours, it comes suddenly and unexpectedly after grave, long-lasting misfortunes, and like a harbor gained after what I might compare to a most savage storm. What, indeed, is so harsh for a free people as slavery? What so sweet, what so longed for, as freedom? Hence the minds of the populace might be persuaded to any course whatsoever, not only by the events themselves, but even by the empty names of these actions, especially during these first few days, while the intoxication of delight and a certain sweet drunkenness of exultancy do not permit the minds of those whose hearts are full to reflect. But, gentlemen of the jury, your exceptional wisdom

¹⁴ A traditional Stoic view, well suited to the character of the speaker.

and insight not only relieve me of this concern, but also provide me assurance to hope that this objector's role, which indeed I have undertaken not out of jealousy nor out of inclination toward the tyranny, as my opponent falsely charged, but because of my habitual and, I think, well-known affection for the state, may appear to you not only not blameworthy, but even deserving of your support and endorsement.¹⁵

272 F-273 B

For after I saw that by a manifest good will on the part of the gods freedom, so often earnestly besought in the prayers of the state, had finally been achieved, following that long and most wretched enslavement, I judged that we ought to make it our foremost concern to show ourselves grateful to those from whom our extraordinary good fortune had proceeded, in order, naturally, that they might consent to make their gift this city's sure and lasting possession, and to establish and secure what they had not refused to bestow, and that we might remember that it was in their power to snatch from us, if we proved ungrateful, what they had granted in response to our prayers. Now the very first function of gratitude is, obviously, to understand whom you should credit for a favor. And only in this way can we mortals render thanks for divine aid: by recognizing that we have received a favor, by proclaiming it, and by crediting it to those who bestowed it. Nor did I think that I ought to countenance our being found ungrateful and impious towards the gods by reason of our inclination to be overgenerous to a citizen. My concern is not so acute on

¹⁵ The opening of the *exordium* seeks to win the good will of the jurors both by lavish praise of their qualifications and by the pleader's identification of his own cause with patriotism, which is recommended by Quintilian (iv. 1. 7).

the score of whether the treasury lose this reward and the sum to be added to his wealth (although, in fact, the treasury is too depleted after the long tyranny to justify the casual bestowal of rewards from it upon those who do not deserve them); the really important thing is that the immortal gods, who turned his ill-conceived schemes to our gain, should not reclaim from us as ingrates this glorious gift if we cheat them of the honor, praise, and thanks which are owed to them alone, and confer these accolades upon a man. And what sort of man, pray? Plainly, one who, though as a mere private citizen he killed a youth in violation of the laws, and by this rash act occasioned the dangerous situation from which only by our good luck was freedom reestablished, all without his even being aware of it (as I shall presently show), does not scruple to snatch from the gods and claim for himself the most glorious title of tyrannicide, to indict the state and call the laws themselves to account, and to charge the city with ingratitude unless it credits him with this good fortune in its entirety.¹⁶

273 C-274 A

Again, I know not whether I should regard this as meriting laughter or loathing, that in the court, before a most august assemblage of most stern jurors, he played for us the role of

¹⁶ Erasmus, in stressing the rôle of the gods in the deliverance of the city from tyranny, is following the prescription of Cicero, *De Inv.* i. 16. 23), who points out that such a technique will help to render a jury attentive to the argument. It might be thought that he would better have postponed treatment of this topic until near the end of the speech, after showing that the alleged tyrannicide had exposed the whole city to the tyrant's vengeance; Quintilian, however, approves introducing into the *exordium* all those points which seem most likely to win the jurors' favor.

braggart soldier straight from comedy.¹⁷ You perceived, gentlemen of the jury, how many spectators were unable to check their laughter when that fellow, in his pose of Hercules, rehearsed his tragedy for us¹⁸—about himself thrice and four times¹⁹ a tyrannicide, about that sagacious sword his fellow fighter, which in its wisdom slew the old man unaided and deserved indeed to be translated to the skies after its owner's enrollment among the gods.²⁰ Good heavens, with what fustian, what hypocrisy, what bombast he magnified, exaggerated, and exalted that deed of his to us! With what soldier's boastfulness, what stentorian voice, what arrogant features, what contemptuous brows, what dull-witted eyes he thundered forth his own eulogy to you! I beg you, gentlemen, to observe his features closely. Does he not seem to be menacing you? Does he not seem to be saying "Unless you vote me the reward, you shall not get off unpunished, so long as that divine and brave, brave sword of mine is safe, which even without me shall serve my turn when it suits my pleasure"?²¹ Who, pray, could stand such arrogance, even in a man who had really killed a tyrant?

¹⁷ The claimant's boastfulness makes such a gibe natural, but the closing sections of Lucian's speech abound in references to tragedy, stage, actors, and rôles, so that allusion here to a stock comic figure gains an access of value through ironic contrast to the claimant's pretensions.

¹⁸ Cf. Lucian, *Tyrannicida* 20.

¹⁹ Not to be taken literally, but in the ordinary inexact sense; he does assert that he has slain *two* tyrants.

²⁰ A direct recollection of the language of Lucian, *Tyr.* 19.

²¹ A shrewd appeal to the emotions. In his treatment of the peroration, Quintilian says that prejudice may be aroused against the defendant by pointing out disrespectful, contumacious, or arrogant behavior, revealed not merely by specific acts or words, but even by looks, bearing, and manner (vi. 1. 14). The obloquy is accentuated by leading the jurors to entertain fears for their own safety.

This reason also, gentlemen, (I must not deny it) roused me to oppose his request, or rather to counter his boundless arrogance and his hateful claim: I saw already straight from the start, when the whole state was vying in pouring out thanks to the gods as the authors of freedom, how he thrust himself into the thick of things, swelling with rage, how he resented the sacrifice of victims to the gods our saviors. He protested that this honor was being snatched from him; that he was solely responsible for the restoration of freedom; that laws, altars, hearths, everything public and private, owed their salvation to his glorious sword. Come, gentlemen, conjecture what will happen ultimately, if the seal of approval is put upon his boastfulness by your sanction, your approval, and your grant of a reward. What, save that after the removal of the former tyrant, a second will be foisted upon the city to practice a tyranny, as it were, of bombastic tongue and self-assertion, to din daily in our ears that loathsome tragedy of his, to threaten us daily with that herculean hand and that wonder-working sword? Is this, gentlemen, to be freed from tyranny or to exchange one tyrant for another? You yourselves see with what menacing aspect he already eyes me. Why are you angry with me?²² Why do you threaten me with your eyes? Why do you affright me with raised brows? Shall I not be allowed to use in opposing you (with your generous permission) the freedom which you so grossly abuse, who think yourself free to lodge—and that before angry jurors, before so numerous a throng of citizen bystanders—as unprincipled and deadly a charge as you like (though the laws

²² The shift of address from jury to adversary is a technique often used in this speech, and heightens the theatrical effect.

forbid it even on the stage²³), which you cannot support by even the flimsiest evidence? For with a shamelessness which matches the boastfulness of your other statements, you allege that I have no other reason for assuming the burden of opposing your demand but to avenge the death of the tyrant, which, say you, caused me deepest anguish.

275 B-C

"How many tyrannicides," he says, "how many rewards? First because I willed the deed, next because I made the attempt. Then, too, because I killed the son, who was worse than a tyrant. Finally because the father on account of his death committed suicide."²⁴ First, gentlemen, who cannot see that his claim to have willed the deed is too trivial to call for counter-argument? . . . "Well," you [the claimant] will say, "is it not a great part of an action to have willed it, a thing which even, in the case of difficult enterprises, is generally allowed to suffice by itself?" Rightly so. But only in our dealings with the gods. For since to them alone is clear what you do and do not will, it is from them that you must claim reward if you have conceived in your heart some noble design. The law is like men, and to such a degree reckons none of its business what mortals purpose in the hidden recesses of their secret hearts that it pays no heed even to things noised abroad by public opinion and gossip, to say nothing of matters obscure or suspicious. . . . What crime, pray, is so monstrous that the mere will to perpetrate it has ever been made

²³ Quite possibly a reminiscence of the situation referred to in *Ad Herennium* i. 14. 24, concerning a mime who attacked Accius from the stage.

²⁴ The first two bases for the claim are set forth in Lucian, *Tyr.* 14, the latter pair *ibid.*, 16. Erasmus at this point begins to review the claimant's arguments, promising to refute them as he goes.

the ground for an accusation? Those judgments are reserved for the courts of Aeacus and Rhadamanthus.²⁵ Tell me not what you willed to do, but what you did.

277 A

Otherwise, if a reward were owed for effort, not solely for accomplishment, in an Olympic contest there would be need of as many prizes as there were entrants. Even so, in games of that kind, which are staged for reasons of ritual and entertainment, it sometimes happens that prizes are appointed for the losers, not as a mark of honor but as a consolation; but in such serious and perilous matters as tyrannicide what law, I beg of you, ever appointed recompense unless one performed a deed, and performed it down to the smallest detail?

277 B

The man who brings safe to shore a ship abandoned in a storm has a claim, according to law, upon the ship's cargo. What good will it do you in such a case to boast of your skill, sweat, dangers, and efforts? If you have done nothing to bring the ship safely in, but, mastered by the storm, abandoned her, will you presume to lay claim to any of the things in her?²⁶

278 B-C

Nor is your case helped by the argument which you seemed to me to derive from analogy,²⁷ that since in mat-

²⁵ The judges of souls in the lower world.

²⁶ An almost certain echo of a case treated at great length in both *De Inv.* ii. 51. 153 and *Ad Her.* i. 11. 19.

²⁷ In Erasmus' text, *ratiocinando*. This kind of argument is discussed by Quintilian (vii. 8. 3) under the classification of *status ratiocinativus*; it consists of deducing from actual law that which is uncertain. Among examples, he lists the contention that the killer of two tyrants should receive two rewards. Erasmus' speaker means that Lucian's claimant was arguing from the analogy of *causa mortis*, which figures as the charge in numerous declamations

ters of wrongdoing the law imposes a punishment for the mere planning of a crime,²⁸ it is reasonable for it to take much more account of an attempt involving services, inasmuch as (you say) the law ought to appear much readier to recompense merit than to avenge guilt. See how completely you stray from the right track. First, do you not perceive how different this act of tyrannicide is from all others? For the planning of other acts is linked only with personal peril to the planner, whereas this one is coupled with such risk to the entire state that rashly to plot tyrannicide is nothing but betrayal of the commonwealth by individual audacity. Secondly, the law does not permit inquiries to be conducted respecting every kind of attempt in the case of all crimes, but only a few such as by their monstrosity merit this degree of harshness or are of a sort to bring about utter destruction before the attempts reveal their purpose, like parricide, poisoning, and treason. Finally, do you not see that there is no resemblance, but absolute difference in kind and basis, between the legal imposition of a penalty and the bestowal of an honor? For the one is indeed properly the function of law, the other, as it

were, a sort of relaxation of justice and a generosity on the part of the law, if I may put it so. You will eventually realize that this is true if you reflect how many things the law commands, imposing a penalty unless you obey; likewise, how many it forbids as well, threatening punishment unless you comply; but on the other hand how few—hardly more than one or two—it invites to by offer of reward.

280 A

This one question is at issue in this trial, whether credit should be given to you, or to fortune and the management of the gods, because the father, an unquestioned tyrant, was slain. For as to your contention that he was slain by your sword, how silly and trifling that is! What if the tyrant had been killed with your sword by someone who had asked you for the loan of it;²⁹ you would not immediately come forward to claim a tyrannicide's reward, would you? The law promises honor to the slayer, but you killed a man whose designation as tyrant is surely debatable and let one go about whom there is no question. If you did so intentionally, then intentionally you resigned your claim to reward; but if you did so from fear, you have much less warrant for demanding a favor.

281 B-D

But even though we concede a point to you and permit you to import personal affection into a tyrant's breast—

and often was a valid accusation, e. g. in cases where criminal assault was suspected, but also might be an absurd irrelevance; Quintilian, for instance, expressly states that the charge was inapplicable to prosecutor, witnesses, or jury in a capital case, or to a friend who recommended a sea voyage to a man subsequently shipwrecked or who entertained at dinner a man who later died of indigestion (vii. 3. 31-34). The alleged tyrannicide of Lucian accounted himself the cause of the tyrant's death because he had left his sword in the dead body of the despot's son.

²⁸ Cf. the rescript of Hadrian (*Digest* XLVIII. 8. 4): *in maleficiis voluntas spectatur, non exitus* (In crimes, the intent, not the issue, is regarded). Accomplices in crimes like poisoning, homicide, and rape were visited with the same penalties as the person who committed the criminal act; mere encouragement was enough to incur equal guilt.

²⁹ Lucian (*Tyr.* 11) depicts his claimant as arguing that to receive the reward he need not have wielded the sword himself, and protesting that insistence on that condition might in future bar a slayer who had killed with a stick or stone, or by blockading the tyrant caused his death by starvation. Objections of this sort figure repeatedly in the pleas summarized in pseudo-Quintilian's *Declamationes Minores*; the letter of the law is criticized as not making adequate provision for exceptional circumstances.

that is, fire into a stream—will you, pray, urge this upon us, that he loved his son so excessively, that he had so utterly centered all the hopes, pleasures, and resources of his own life in him, that after the slaying he thought that he had not the slightest reason left for living? Hark back to the experience not merely of this city, but of the whole human race; not of this age, but of all time since the creation, and, if you wish, the very fashioning of man by Prometheus. How many fathers or dotting mothers have killed themselves because of the death of their children? This grief comes in the course of nature, and there is no one who does not bear it manfully. For parents of private station, for weak women most undisciplined in their emotions, ordinary sorrow suffices; did you, a second Lynceus,³⁰ foresee that naught but death would do justice to the tyrant's affection for his son? Well, we grant you even this; let the tyrant's devotion have surpassed that of indulgent women, yet how could you be sure to which the father's sorrow would turn, madness or despair? The more intemperate his love, the more likely it was that an aged man, savage by nature, hostile to the citizens, should particularly wish to survive for the very purpose of sating that old resentment, then most fiercely intensified and exacerbated by his son's death, with revenge upon the state.³¹

283 B-D

If you had gone up to the fortress with the purpose of killing the son, not the father, it might be believed that you

had conceived some such hope in your mind. But as it is, you fell upon the young man, I know not whether by chance or from fear, and then at last that divinely inspired mind of yours (that can read the future but does not disclose its oracles until after the event) set to work. Though flight was dictated, then at last, gentlemen of the jury, under circumstances so fraught with turmoil, he³² began to deliberate, as if he had all the time in the world, whether he deemed the old man fit to die by his right arm;³³ then at last he began to foresee that the father would lay hands upon himself.³⁴ And in order to make this insolent fiction a little more plausible, gentlemen, he described things which he neither saw nor could have seen, exactly as if he (a poet, by his own boast) had stood by as observer of what came into the tyrant's mind, what he said, what he did, how he drew his sword.³⁵ It is beyond question equally shameless to claim to have known in advance what the issue of events was going to be and to tell what you did not see as if you had seen it. How much more credence your invention—that is, your melodrama—would have gained if you had made it up thus: When, having dispatched the youth, you purposed to move with drawn sword against the old man, the Pallas of Homeric story appeared behind you and caught you by the hair as you were already on your way; she forbade you to mar so splendid an exploit by the murder of an aged man, saying that she would arrange, without any need for you to worry about it, for him to be dispatched by his own hand but your sword, thus not only casting

³⁰ One of the Argonauts, famed for his keenness of sight.

³¹ The character sketch of the tyrant, drawn as utter villain with no redeeming qualities, was a favorite "purple patch" in the declaimer's repertoire, and Erasmus furnishes a typical portrait. 280 E-281 A are more lurid by far than the translated passage, but less germane to the argument.

³² The shift of address, mentioned in Note 8 *supra*, in reverse.

³³ Lucian, *Tyr.* 8.

³⁴ *Tyr.* 18.

³⁵ *Tyr.* 20-21.

no shadow upon your glory, but even adding lustre to it; then you hid and watched through a crack, or (more consonant with your dignity) the goddess suddenly enveloped you in a cloud, so that you were present, a serene and untroubled witness of the tyrant's death, and did not depart until you had seen the whole business finished. If this had been the tale you invented, you would have shown yourself not so bad a poet. But, I daresay, you did not have the leisure to harmonize all the details of your piece, especially as greed for gain was dragging you post-haste to demand your reward.

283 D-F

Besides, if you had wanted to gain credit for a truthful tale, you ought to have told how like a spy you made your way stealthily up to the fortress by night, how you crept covertly into the palace (where, thanks to good fortune, you encountered no one),³⁶ not with the aim of stealing anything but of determining whether there was some bold deed that you could safely contrive; that fortune happily favored your scheme, and so, when you encountered the youth alone and unguarded (for one of his years is naturally more careless and less heedful of danger, and furthermore the long duration of the tyranny had already dispelled a good share of caution), then, I presume, in view of his character, you bravely dispatched him while he was buried in a drunken stupor and worn out by inordinate debauchery, and so coupled his sleep with death—that is, as Homer says, brother with brother—but subsequently, when the hinges of distant doors began to creak as the dying man's

groan was overheard, you fled, so panic-stricken that you did not have time to withdraw the sword (which neither parricides nor assassins are wont to leave behind lest they be caught) from the wound; that meanwhile you hid at home, with your thoughts long since fixed upon flight, and pondering in your heart some distant and remote place for a refuge where you might lurk and so cheat the savage vengeance of the angry father; that when you were already resolved upon voluntary exile, suddenly the report spread among the crowd that the state was free, that the tyrant and his son had been slain, that the rest had fled in terror, that the author of the deed was unknown; that then, at this surprising dénouement of your tale, you changed your mind and, from being, as before, anxious for your safety, forthwith became bold to hope for reward.³⁷

284 C-D

Nor did you ever despise him [the father], unless perchance you equate despising someone with being desperately afraid of him. You knew that the fortress was crammed with weapons, you knew that there was a horde of minions, any one of whom, if the old man's strength was not equal to the task, could have killed you. You were not unaware, any more than any of us is, how much strength his training and how much resourcefulness his savagery had respectively left him. It did not then escape your notice that frigid old age (to which you have alluded) is sometimes so fired by bitter grief that even the most stalwart young men have not been able to

³⁶ Note the discrepancy from the statement of circumstances in Lucian's declamation, where it is said that the claimant slew watch and guard.

³⁷ Erasmus here pits his own *colores* or interpretation of the events against those of the claimant. The statements of themes for declamation purposely left many essential details vague or unmentioned, and each pleader elaborated them in the form most advantageous to his side. Erasmus paints the killing of the tyrant's son as an easy and cowardly conquest of an unarmed, unsuspecting victim.

cope with it, whenever that wanted vigor, numbed, so to speak, by the chill of age, has flared up under some strong emotion. But indeed who is so weak that great shame, anger, or sorrow does not supply him strength? This, obviously, was why you preferred to kill the son rather than the father, because chance presented the former to you unsuspecting, unarmed, and sleeping. With the latter your fight had to be against one armed, supported, and angry, too. This was why you left your sword behind, thinking it unsafe even to tarry long enough to recover it, and fearing, I doubt not, that so trifling an addition to your gear might impede your flight. Reluctantly you left behind a thing by which you might be betrayed to the tyrant, but you preferred being betrayed to being caught.

290 E-F

But let us make all these concessions to the top of your bent: granted that the son was the whole substance of the tyranny, the father a tyrant only in name, just as the nymph Echo in story was nothing but a mere voice without a body. Even so, what right had you in so essential an enterprise to deviate from the words of the law, especially when they are so clear that nothing could be more straight-forward, and to import into the case your own distorted interpretation?³⁸ It is my conviction, gentlemen, that no more ruinous example can be introduced into the state than if perjurers become accustomed to deviate from the prescription of the laws and represent their actions to jurors under the most favorable interpretation that they can severally devise to cloak their behavior.

³⁸ Insistence upon the letter of the law is of course essential to refutation of the adversary's argument.

291 E-292 A

Finally, if someone is dissatisfied with a public official or hates a judge, he will not hesitate to do away with him. Furthermore, to defend his crime he will consult some sophist or sycophant,³⁹ if he is too dull-witted himself, and put before you some new interpretation of the law; he will say that the lawgiver intended nothing else than that citizens of this stamp, acting the tyrant not in name but in fact, be done away with by fire, sword, or poison. And so it will soon happen that we shall all too often lament and censure, when it is applied to many men, a measure which we only once sanctioned and lauded in its application to one individual.⁴⁰ Believe me, it is no minor risk, nor one to be authorized with our eyes shut, that a private citizen should kill a fellow man, having found such warrant. It will be readily apparent that this is so if indeed we observe that there is nothing which the law permits more sparingly or circumspectly. For, if my memory serves, under only three circumstances has the law sanctioned anyone's killing a man without trial. First, an adulterer, but only one caught with the slayer's wife—a concession to the uncontrolled and irresistible grief of the husband. But only then on condition that he kill both offenders at the same time and show by appropriate proofs that the adulterer was caught in the act.⁴¹ Again, in repelling force. But only on condition that you

³⁹ Greek term meaning pettifogger; often it serves as the Attic equivalent of the Latin *delator* (informer).

⁴⁰ *De Inv.* i. 53. 101 and *Ad Her.* ii. 30. 48 suggests that indignation may be stirred by emphasizing the dreadful consequences if others behave like the accused.

⁴¹ A right apparently sanctioned, according to S. F. Bonner (*Roman Declamation in the Late Republic and Early Empire* [Liverpool: University Press of Liverpool, 1949], p. 120) until the adoption of the *lex Iulia de adulteriis* (ca. 17 B. C.).

show you could not have escaped death unless you had inflicted death; this the law interprets as being self-defence rather than murder. Both slayers, however, are required to justify their act, to confess at once and not wait until they are dragged to justice, and as it were voluntarily to make themselves defendants. But if all the proofs cohere, they are exempt from the penalties of law in such wise that they appear to have merited pardon, not praise. Lastly, in the slaying of a tyrant, where, from the greatness of the risk incurred, the law also appoints a reward, but on condition that you kill courageously one whom the law itself has labeled with the name tyrant, not if you dispatch a criminal by a criminal act of your own; nor will it sanction your right to kill if you extend it beyond the person of the single tyrant, except if someone oppose you so that you must slay him to reach the principal.

293 C-D

Nor indeed should it be thought that those distinguished forbears of ours, indisputably the wisest of men, thus ordained without the weightiest reasons that the leave for a citizen to kill a tyrant should be limited to his person only. First, they did not consider that a loophole ought to be opened to citizens that would sanction indiscriminate slaying; next, they perceived that a tyranny was a sort of fateful scourge of the state which could with less harm be endured than driven out by inappropriate means, and that it could not be eradicated once and for all except by the killing of the tyrant himself. But they felt that once he was removed who commanded rather than obeyed the laws, there was no longer any need for private daring, when the laws had been restored to their direction of the state. But if the

tyrant could have been made answerable to justice, they would not have left even him subject to the arbitrament of your right hand.

294 C-295 C

The law demands three things, and demands them so imperatively that if any one of them is wanting, it believes that you owe punishment or at all events that it does not owe any gratitude; I shall show that not only some one of these, but every single one, was wanting in your case. If I do this, will you retire with equanimity from your demand or will you shamelessly persist in seeking reward? Well, listen to the facts. Unless you meet these three conditions—purpose, method, and result⁴²—there is no justification for your seeking a tyrannicide's reward.

Purpose embraces two aspects: what you hoped for or what you intended. For if you had killed the tyrant by mistake rather than intention, surely a reward would not be owed to you any more than if someone very friendly to the tyrant had done the same (for this, too, might happen). Moreover, do you yourself reflect with what design you went to the fortress; the law will be convinced that you wished to kill the tyrant only if you have killed him. You did not kill him, and you failed to even though, by your own admission, you had the opportunity if you had cared to use it. The law says that it makes no difference whether you did not go to the fortress with the design of tyrannicide, or, having done so, changed your mind. Now let us look into what you hoped for, even though the laws do not weigh this issue with such scrupulous care. Yet in such a momentous act all the details ought to fit. For what if you

⁴² The claimant most implausibly asserts in *Tyr.* 14 that purpose, even if unsupported by success, suffices.

had killed the tyrant in order that you yourself might usurp the tyranny; would you hope for reward? Or would you fear punishment? What if someone personally hostile to the tyrant had hired you at a high price to administer poison to the tyrant, and you had administered it, would you, I beg, demand a tyrannicide's reward?⁴³ I do not in this matter confront you with suppositions; I say nothing against your life, which indeed is to obscure for you, otherwise so boastful, to venture to speak of.⁴⁴ But this one thing I should not hesitate to affirm, that one who has not killed a tyrant when he could safely have done so, obviously did not wish to kill him. He who killed a man whose death seemed likely to bring utter ruin upon the state rather than any advantage, either wanted to avenge a personal grief, not restore public liberty, or pursued private gain at the state's risk and was not eager to aid the state at risk to himself. Finally, he cannot but seem actuated by a thirst for glory who boasts so unwarrantably of his own exploits; he cannot but seem to have pursued profit who so shamelessly demands reward. Do you not see how in this regard you are at odds with the whole intent of the law? Not only did you willingly pass over the man whom she wanted you to kill at the risk of your own life for her sake, but you also roused him dangerously against the state; one whom she did not want killed for her sake you dispatched for your own gain or perhaps to gratify your own caprice.

But even assuming you brought to the deed a temper befitting a tyran-

nicide, as heedless of gain as of life, it nevertheless makes a great difference in what way you attempt to destroy a tyranny. Now indeed I concede to you everything that you wish believed, things that no one else is likely to grant. That in slaying the son you slew the father, in slaying a non-tyrant you slew the tyrant. I concede that some prophetic instinct foretold to you this result so that you were assured of an outcome that Apollo himself could hardly have divined. That you might have killed the tyrant if you had desired, but that this kind of punishment pleased you more.

So, then, you destroyed the tyranny, and in a strange, unusual way. You see how many concessions I make to you. Still, I shall oppose you and not allow you to carry off a reward, since you destroyed it in a way that is not approved by the law, that does not conduce to public morals, that is not worthy of a brave man. Come, what if you had throttled the tyrant's infant son in the cradle, and had had, then too, the same prophetic assurance that the father would take his own life because his son had been killed, would the state look up to you as a tyrannicide or instead execrate you as a heartless and savage creature for venting your cruelty upon an age that is spared by even an armed foe, seems pitiable even to lions? What then? The state will profit by your wickedness, but it will by no means give its approval to your example. What if you had forcibly debauched the tyrant's wife, whom he loved desperately, and he, unable to bear this disgrace, hastened to quit life, will you demand the glory of tyrannicide or rather dread punishment for rape and adultery?⁴⁵ The principle is not obscure; I will ad-

⁴³ Strongly reminiscent of the two themes from pseudo-Quintilian (*D. Min.* 345 and 382) in which the rich man hires a poor youth to carry out the slaying.

⁴⁴ A good case of *praeteritio*, where the speaker says he will omit mention of something (usually not altogether relevant anyway), but in so doing contrives to slur his adversary.

⁴⁵ A refinement upon the circumstances outlined by Seneca (*Contr.* vii. 4) and Quintilian (v. 10. 36), who represent the adulterer as slaying the tyrant by the sword.

duce parallels closer to your behavior. What if, being the tyrant's physician, you had gotten rid of him by giving him poison when he was ill, shall the state loathe you as a poisoner or admire you as a brave man? It will rejoice that the tyrant has been removed, but it will condemn the planning and the manner of the deed. What if, when the tyrant treated you as an intimate, you proffered him poison at a banquet under the mask of friendship?⁴⁶ Finally, if you had taken the tyrant's life by magic likenesses and maleficent curses,⁴⁷ would you expect reward or punishment from the law?

Yet at all events you did remove the tyranny. The law rejoices in the outcome. But it does not sanction an example so ruinous to the state, that citizens become accustomed to avenge crime by crime, to slay a father by slaying a son.

296 D

Finally, however, even though your purpose and method be fully taken into consideration, you did not—and this is the heart of the matter—accomplish your design. For so far are you from

having killed the tyrant that, to the extent that it depended upon you, you magnified the tyranny by killing the son. What difference does it make whether from malice or from stupidity you involved the state in peril? Nothing, indeed, is truer than the common saying that unseasonable good will differs not at all from enmity.

298 B-C

As for the rest, it is now your responsibility, gentlemen of the jury, to determine whether you wish to render your verdict in favor of the laws, the gods, and the state, or of this boastful braggart; whether you prefer to ascribe the city's present happiness (often, in that event, to be made a reproach, and perhaps, though I pray not, soon to be taken away by angry gods) to this man's rashness and crime, or to the gods to whom it is indisputably due in its entirety, that by their favor it may be continued, enhanced, and given successful issue; whether it is more advantageous that the laws be said to have been cheated in this first trial, or that it be clear that the severity of reestablished laws and the wisdom of the jurors have prevailed against the unfair demand of one man.⁴⁸

⁴⁶ These two situations may be considered to have been conflated in the theme of Quintilian (vii. 2. 25) mentioned in the introduction as an instance of conjectural *status*.

⁴⁷ Probably by making and melting down a wax figurine or by inscribing curses on lead plates and burying them in the ground. The trial of Piso, suspected of thus causing the death of Germanicus, vouches for the fact that such accusations might be taken seriously.

⁴⁸ The peroration is unusually brief, and devoid of florid emotional appeal. It thus reinforces the analytical tone of the preceding sections dealing with deficiencies of the petitioner's claim. Such a conclusion would comport with the character of the hypothetical jury.

SOME ARISTOTELIAN AND STOIC INFLUENCES ON THE THEORY OF STASES

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THE earliest formal system of stases, or issues, that has come down to us is found in the work of Hermagoras of Temnos (second century B.C.), who considered political questions under two heads, those relating to *reasoned discourse* and those relating to *law and customs*. Under the first, Hermagoras listed the four stases of conjecture, definition, quality, and objection or substitution; under the second, he discussed four types of legal questions without, so far as we know, using the term *stasis* in connection with them. The system of Hermagoras, reconstructed through sixty quotations from secondary sources,¹ is the first specific and detailed theory on the analysis of stases. Not too much information is available, unfortunately, about the pre-Hermagorean history of stases, and this paper undertakes to suggest some early influences on Hermagoras and, through him, on later theory.

In a 1950 article on "Stasis," Otto Dieter traced the physical origins of that term and concluded with a definition of it as the "... station, or standing still, which necessarily must occur momentarily in-between opposite 'changes' and in-between contrary motions, movements, processes, functions, or forces in action."² Prior to arriving at that thorough definition, Professor Dieter showed through an analysis of early

works, primarily those of Aristotle, that physical changes, motions, et cetera, are of four kinds and four kinds only. To cite one of several quotations: "For the thing being changed always changes in respect to substance or to quantity or to quality or to place."³ Dieter then demonstrated that stases of the foregoing physical motions are *analogous*⁴ to the four rhetorical stases of Hermagoras and others. That there is anything more than an analogy between the physical and rhetorical stases Dieter does not suggest, and I can find no evidence that Hermagoras (or anybody else) used the physical stases as a basis for constructing a system of rhetorical stases.

In this current study, I am supporting the theory that the actual *analytical method* of the rhetorical stases was developed from and reflects characteristic uses by the ancients of (1) the four Aristotelian predicables of genus, definition, property, and coincident, and uses of (2) the four Stoic categories of body, of a particular kind, in a particular state, in a particular relation. Although this theory is not new,⁵ it has never been

³ Aristotle, *Physics*, 200b 33.

⁴ Dieter, *op. cit.*, p. 356.

⁵ Both Thiele and Jaeneke note influences of Aristotelian and Stoic logic and dialectic without pointing them up in the way undertaken in this article. Cf. Thiele, *op. cit.*, p. 177 ff., and Gualtherus Jaeneke, *De Statuum Doctrina Ab Hermogene Tradita* (Leipzig; Robert Noske, 1904), p. 43 ff. Among others commenting on these influences: Richard Volkmann, *Die Rhetorik der Griechen und Römer* (Leipzig; Teubner, 1885), p. 56 et passim, M. L. Clark, *Rhetoric at Rome* (London; Cohen & West, 1953), p. 8, and the Loeb edition of the

¹ Georg Thiele, *Hermagoras* (Strassburg: Trübner, 1893), pp. 2-16. A complete outline of the Hermagorean system appears on p. 85.

² Otto A. Dieter, "Stasis," *Speech Monographs*, XVII (November, 1950), 369.

fully explored or elaborated; this I propose to do.

At this point, it will be useful to review the generally accepted meanings of the stases of Hermagoras. In his system, *στάσις στοχασμός* means *stasis of conjecture* on, for instance, whether an act took place; *ὅρος* means *stasis of definition* which states what a thing is through its essence or essential qualities; *ποιότης* means *quality of non-essential kinds* as distinguished from essential qualities noted in a definition; *μετάληψις* means an *objection* to a charge, or *substitution* of a plea, on technical grounds not directly concerned with the act itself. Stated in another way, arguments pro and con on whether an act took place result in *stasis of conjecture*; arguments about its essential qualities (e.g., felony or misdemeanor) result in *stasis of definition*; arguments about its non-essential attributes (e.g., extenuating circumstances) result in *stasis of quality*; and procedural arguments on such matters as jurisdiction result in *stasis of objection* (e.g., "You cannot charge me with murder for secretly killing a man who was later tried in absentia and sentenced to death by the courts."⁶).

Since the foregoing are basic rhetorical stases, how did the system and the terms come into being? No less an authority than Quintilian says, in reference to the Aristotelian categories of substance (*οὐσία*), quantity (*ποσόν*), quality (*ποιόν*), and relation (*πρός τι*), that these "first

four seem to concern the stases." He uses the word *seem*⁷ with reason because some difficulties stand in the way of a direct relationship between these categories and the four rhetorical stases.

For one, does *ποσόν* mean definition in the sense of the later rhetorical *stasis of ὅρος*? According to Cope three Aristotelian "stases" (*ἀμφισβητήσεις*) appear in the familiar quotation "ὅτι ἐστὶ . . . , ὅτι ποῖόν, ἢ ὅτι ποσόν. . . ."⁸ This last term of quantity is "what was afterwards called the *ὀρικὴ στάσις*, and by Cicero and the Latin rhetoricians 'nomen' or 'finitio.'"⁹ How Cope arrives at his conclusion is not clear. The passage quoted by him means "that the action took place, that it has quality, or that it has quantity. . . ." Just as strong a case, if not stronger, could be made for interpreting *ποιόν* as definition and *ποσόν* as non-essential quality; further, the latter interpretation would be strengthened by the Aristotelian order of words, assuming that they are in logical order. To be accepted as a parallel, equivalent, or antecedent form of *ὅρος*, the term *ποσόν* should have the meaning of essential quality; however, the basic Aristotelian example of the term is simply "two cubits" or "three cubits."¹⁰ Aristotle also goes on to distinguish between discrete quantity (e.g., number) and continuous quantity (e.g., lines,

Rhetorica ad Herennium, trans. Harry Caplan (Cambridge: Harvard University Press, 1954), p. 32, note c. The number of writers who show general Peripatetic influences on the Stoics is legion.

⁶ Hermogenes, *On Stases*, 53. Quotation is my paraphrase of situation described in this passage. For comment on the forensic emphasis in Hermagoras, see Friedrich Solmsen, "Aristotelian Tradition in Ancient Rhetoric," *American Journal of Philology*, LXII (1941), 177.

⁷ Italics mine. The Loeb edition of Quintilian, H. E. Butler's translation, gives only "concern" for "pertinere . . . videntur." If Quintilian had meant only "concern," he would have used "pertinent" alone. See Quint. iii. 6. 24. For a survey of the history of categories, see Adolph Trendelenburg, *Geschichte der Kategorienlehre* (Vol. I, *Historische Beiträge zur Philosophie*; Berlin: Bethge, 1846), pp. 1-364. This volume traces categories from Aristotle through Hegel; Stoic forms are discussed at some length, pp. 217-31.

⁸ Aristotle, *Rhetoric*, 1417b.

⁹ E. M. Cope, *An Introduction to Aristotle's Rhetoric* (London: Macmillan, 1867), p. 398.

¹⁰ Aristotle, *Categories*, 1b 28.

space, time).¹¹ It is difficult to see how these "quantities" would be used primarily in definitions. A man is no less a man for his being five or seven feet tall. Thus, the instances in which ποσόν could be interpreted as essential quality only would seem to be limited; its classical meaning is generally less ambitious and just as easily related to non-essential attributes.

For another difficulty, does ποιόν mean *non-essential quality* as opposed to essential quality? The Aristotelian category of quality is a term embracing both concepts; very early in his treatment of the first of many senses (τῶν πλεοναχῶς λεγομένων)¹² of quality, Aristotle distinguishes between ξέις and διάθεσις—the first is a thing "more lasting and stable,"¹³ e.g. justice; the second is "easily moved and more quickly changed,"¹⁴ e.g. health. In other words, ξέις is a relatively permanent condition differing from the relatively transient and alterable διάθεσις; the first could have a bearing on the essence of a thing, and the second would normally have a bearing on temporary non-essential quality. To move on to Aristotle's examples for another kind of quality, that of figure and form, he uses *square* and *triangle* as examples.¹⁵ *These do not admit of variation in degree*, for "those things to which the definition of a triangle . . . is applicable are all equally triangular. . . ."¹⁶ Carrying this idea a step farther, it is easy to see how this kind of quality, the shape of a thing, might be a part of its essence (definition). For instance, a ball is round. "Round" is not a quantity; it is a quality but an essential one not in the class

of non-essential qualities like, in this instance, rubber, sponge, or plastic. My point is that here again, in the ποιόν (or ποιότης) of Aristotle, we have a term covering an essential attribute of a thing or a non-essential attribute or both; although non-quantitative, the term can be definitive and/or qualitative in the "non-essential" sense.

As for the other two categories of οὐσία and πρὸς τι, as well as for ποσόν and ποιόν, a fact which is sometimes overlooked is that the categories of Aristotle were predications "out of context" (κατὰ μηδεμίαν συμπλοκὴν).¹⁷ Thus, a particular concept like *ten miles long* is in the category of quantity, but it has that status whether, or not, it is ever predicated of a particular thing. All predicates fall to one or more of the categories or classes of existences; yet the categories themselves are only a division of terms out of construction.

Accordingly, in reviewing some of the difficulties standing in the way of a direct relationship between the Aristotelian categories and the rhetorical stases, we see that, separately and together, the two terms of ποσόν and ποιόν encompass both essential and non-essential qualities; as categories in the Aristotelian system, neither is a synonym for the rhetorical stasis of ὁρος (essential quality or definition) or for ποιότης (non-essential quality). We also note that no one of the categories was intended to be anything but a general class of existence.

If the rhetorical stases are not directly related to the first four Aristotelian categories, what more probable sources of the stasis theory and of its terms can we suggest? We can suggest that both the theory and its terms are more directly related to early ways of examining mat-

¹¹ *Ibid.*, 4b 20 ff.

¹² *Ibid.*, 8b 26.

¹³ *Ibid.*, 8b 28.

¹⁴ *Ibid.*, 8b 35-36.

¹⁵ *Ibid.*, 10a 14.

¹⁶ *Ibid.*, 11a 7-8.

¹⁷ *Ibid.*, 1b 25.

ter. For our purposes here, we are talking about matter from the standpoint of Aristotle's fourth aspect of *being*¹⁸ as exemplified by the ten varieties of categories and by the predicables below. In this aspect, substance is not really in question—it is a person or thing already isolated for observation but not yet defined, qualified, or related to other persons or things. Without attempting complete analysis of the metaphysical problems involved in distinguishing between Aristotelian and Stoic views on matter, it is enough to say that, at this level of examination, the "substance without quality" (*ὑποκείμενον*) of the Stoics is, for all practical purposes, a term equal to the categorical *οὐσία* of Aristotle.¹⁹ We have previously shown, however, that each Aristotelian category was a judgment in isolation; as applied to a specific subject, a category, predicate, or judgment must be, according to Aristotle in his *Topics*, either the definition, or the genus, or the differentia, or a property, or a coincident of that subject.²⁰ These *predicables*, then, are the relations in which a predicate may stand to a subject *in actual practice*. They constitute a *plan of inquiry*²¹ which enables us more easily to attack any subject proposed. Later in his *Topics*, Aristotle reduces the number of predicables to four by ranking the differentia with genus (*γένος*) which answers the question, "What is the object before you?"; then, he distinguishes definition (*ὅρος*) as giving the essence and

property (*ἴδιον*) as including non-essential qualities belonging to a particular thing alone. Thus, with the coincident (*συμβεβηκός*), an accidental quality which is none of the foregoing and yet belongs to a thing, we have a list of *four basic judgments* which Aristotle considers *appropriate in upholding propositions*.²² It is true that he is here dealing with dialectic, but the same *modus operandi* is certainly applicable to rhetoric.

In their attitude toward the study of matter, the Stoics had a similar four-fold plan for arriving at necessary basic judgments. Influenced by the Peripatetics but uninterested in out-of-context predications, the practical Stoics moved directly to an in-service system of classifying persons and things under the following "categories": substance (*ὑποκείμενον*), essential quality (*ποιόν*), non-essential disposition or quality (*πὺς ἔχον*), and coincidental, accidental, or relational quality (*πρὸς τι πὺς ἔχον*).²³ The Stoic categories are different from the Aristotelian predicables in form but the meanings of the terms are much the same.

We are now in a position to note

²² *Ibid.*, 101a 29 and 101b 4. Later logicians used a list omitting *definition* and adding *species* (*εἶδος*) to make up the following series: genus, species, differentia, property, and accident; this list passed into Europe through Porphyry (b. 233 A.D.) and Boetius (fl. 500 A.D.). For the history of this development, see H. W. B. Joseph, *An Introduction To Logic* (Oxford: Clarendon Press, 1916), pp. 66-75.

²³ The following works are among those providing interpretations of the Stoic categories: Eduard Zeller, *The Stoics, Epicureans, and Sceptics*, trans. O. J. Reichel (London: Longmans, Green, 1870), p. 95 ff.; E. Vernon Arnold, *op. cit.*, pp. 164-69; Max Pohlenz, *Die Stoa* (Göttingen; Vandenhoeck & Ruprecht, 1918), pp. 69-75; Émile Bréhier, *Chrysippe et l'ancien Stoicisme* (Paris: Presses Universitaires de France, 1951), p. 132 ff.; Benson Mates, *Stoic Logic* (Vol. XXVI, *U. of California Publications in Philosophy*; Berkeley; University of California Press, 1953), p. 18 ff.; and Margaret E. Reesor, "The Stoic Categories," *American Journal of Philology*, LXXVII (January, 1957), 63-82.

¹⁸ For a discussion of Aristotle's four principal aspects of *Entia*, things or matters, see George Grote, *Aristotle* (London: John Murray, 1872), 1, pp. 85-93.

¹⁹ E. Vernon Arnold, *Roman Stoicism* (Cambridge, England; University Press, 1911), p. 165. Here, and elsewhere in the same volume, Arnold discusses the differences between Aristotelian and Stoic views on the theory of causes, matter, etc.

²⁰ Aristotle, *Topics*, 101b 17-25.

²¹ *Ibid.*, 101a 29.

that the predicables and the Stoic categories cover about the same ground as these rhetorical stases: conjecture about existence or substance (στοχασμός), definition (ὅρος), non-essential quality (ποιότης), and objection (μετάληψις), the latter being a motion or demurrer of a coincidental or accidental relation to the "thing" itself. All three of these systems (Aristotelian predicables, Stoic categories, rhetorical stases) are *practical relations* in which predicates may stand to subjects. All three represent the characteristic mode of the ancients for studying a matter from the standpoint of (1) its state of being, e.g. physician, (2) its definition, e.g. a licensed practitioner of medicine, (3) its quality, property, or non-essential attributes, e.g. tall, blond, athletic, and (4) its coincidents, relations, or properties which may or may not belong to a body without changing its essence, e.g. father. It seems reasonable to me, therefore, to regard the four rhetorical stases as developing from the four standard steps used by both the Peripatetics and the Stoics in studying matter and, in the *Topics* of Aristotle at least, in stating propositions.

From what sources do we get the specific rhetorical terms is the next question. Since, in rhetoric, the ancients were dealing with an inexact art of speculation rather than with physical matter, it is not unexpected to find them falling back on an adjectival form of an old word for conjecture, *στοχάζομαι* to conjecture about or to guess at a thing. In Plato's *Philebus*, the art of persuasion (ἡ τοῦ πείθειν [58a]) is listed among arts like music, medicine, and agriculture as being subject to the powers of guessing (ταῖς τῆς στοχαστικῆς . . . δυνάμεσιν [55e]). Plato also uses the word *στοχασμός* in reference to attaining harmony in music "by guesswork based on practice" (μελέτης στοχασμῷ [56a]). Later, he adds

that music is full of guesswork (στοχάσεως [62c]). In Plato's *Gorgias*, he has Socrates saying, "I do not say with knowledge but by speculation (στοχασαμένη [464c]) in talking about the art of flattery and its divisions."

In his *Rhetoric*, Aristotle uses the adverbial *στοχαστικῶς* (1355a) in a context of weighing matters by conjecture and, later (1395b), he has *στοχάζεσθαι* in the sense of the speaker's need to guess at the opinions of others. In 1357a and b, as well as elsewhere in the *Rhetoric* and in the *Prior Analytics*, we find Aristotle demonstrating that, in rhetoric, we are dealing with *εἰκότα* (probabilities or propositions generally true) and with the second two degrees of *σημεῖα* (usual or indefinite signs—propositions that seem to be true) as distinguished from *τεκμήρια* or signs in the first degree of *σημεῖα* (definite, invariable, inescapable, irrefutable, and conclusive signs—propositions that are always true). Probabilities and signs of the usual or indefinite degrees are used deductively in the form of enthymemes to reach conclusions that are never more than probable.²⁴ In the inductive process, *παράδειγματα* (examples) are assembled to arrive at conclusions which cannot be certain because the induction is incomplete. The customary instruments of proof in rhetoric, then, are the example and the so-called rhetorical syllogism or enthymeme, both of which require judgment or conjecture from incomplete, uncertain evidence.

²⁴ Analogies between rhetoric and medicine occur very frequently in Philodemus' *Rhetoric*, written about 78 B.C. The De Lacys believe that it is "probable that the rhetoricians took the conjectural method from medicine; for even in the early Hippocratic work *On Ancient Medicine* (9), the use of conjecture is discussed. . . ." See P. H. and E. A. De Lacy, *Philodemus: On Methods of Inference* (Philadelphia: American Philological Association, 1941), pp. 131-37. See also *The Rhetorica of Philodemus*, trans. H. M. Hubbell (New Haven: Yale University Press, 1920), Suppl. 12, 13, 14, 16, 27, 32.

Use of *στοχάζομαι* in one form or another by Xenophon,²⁵ Isocrates,²⁶ and others, further attests to use of this word to describe common practice among the ancients of drawing inferences by *conjecture*, primarily from probabilities and uncertain signs, in rhetoric and the other conjectural arts. It is not surprising then, to find *στοχασμός* coming into technical use as the first rhetorical stasis to denote inference by *conjecture* as to whether or not an act took place. We should hardly expect to see *οὐσία*, *γένος*, or *ὑποκείμενον* in this sense, since all three terms carry the implication that the "thing," as yet undifferentiated and unqualified, already exists.

Once a thing is in hand, man turns to its definition (*ὁρος*), a word which to the ancients (and to us) meant designation of the *essence* of a thing, that is, essential qualities which make a thing what it is and nothing else. For example, "A theatre is a structure used primarily for presenting dramatic performances." Both the Aristotelian *ὁρος* and the Stoic *ποιόν* (qualified entity) have this meaning of essential quality. (I have already stated objections to interpreting *ποσόν*, the second Aristotelian category, in this way only.) The word *ὁρος* is the one we find as the second Aristotelian predicable and as the second rhetorical stasis; it is used in exactly the same way in both instances as a second analytical step.

The third step in practical analysis, Peripatetic or Stoic, is the determination of *non-essential qualities* of external variety, i.e. attributes peculiar to the thing and not to the class. It is in this sense that Aristotle uses *ἴδιον* as the third predicable; in the same sense, the Stoics

use *πὺς ἔχον* (in a particular state) as their third category. Neither of these is identical in form to the third rhetorical stasis of *ποιότης* but, in at least one sense, the latter word was regarded by the Stoics as being a more restricted form of quality than their definitive *ποιόν*;²⁷ the word was also used by them in combination with the feminine form of *ἴδιον* as in *ἴδια ποιότης*. In that phrase, or alone, *ποιότης* was, to the Stoics, a term equivalent to *πὺς ἔχον*²⁸ and both of these terms, along with Aristotle's predicable *ἴδιον*, had *particular non-essential* quality as a meaning.

Coincidental non-essential attributes of relation are the fourth concern of the ancients in analyses of the kind under consideration. Aristotle uses the predicable *συμβεβηκός* in this connection, and the Stoics use the category of *πρὸς τι πὺς ἔχον*. The fourth rhetorical term is *μετάληψις* (objection), a word already defined in this paper. In his *Prior Analytics*, Aristotle uses the participle *μεταλαμβάνόμενον* in comment on a proposition *substituted* for original theses.²⁹ In his *Rhetoric*, elements of the same idea are discussed in 1375b, but no form of the word is actually used. However, I submit that *μετάληψις*, which later rhetoricians like Hermagoras used as the fourth complementary step in a quadripartite system of analysis, falls readily into the pattern of the four predicables and of the four Stoic categories. In Hermagoras' day, it may have been substituted for the more general *πρὸς τι* simply because it was the typical and specific relational action to which speakers resorted in objections of all kinds not directly concerned with the "case" itself. That *μετάληψις* was a conscious substitution for *πρὸς τι* is suggested,

²⁵ The materials in the enthymeme may be "necessary" but, with few exceptions, they are only probable. Cf. Aristotle, *Rhet.*, 1357a.

²⁶ *Memorabilia*, 11. 2. 5.

²⁷ Isocrates, 1. 50.

²⁸ Reesor, *op. cit.*, p. 80.

²⁹ *Pr. Anal.*, 41a 29.

at least, by retention of the latter term in the systems of Posidonius (c. 135-51/50 B.C.) and of Theodorus (fl. 33 B.C.).³⁰

Here let us interject the following table and use it as the base for a summary of conclusions:

οὐσία, γένος, and ὑποκείμενον. We see the second rhetorical stasis of definition coinciding in form and meaning with the second Aristotelian predicable and in meaning with the second Stoic category. We see the third stasis of quality coincid-

Systems—	Substance— quality undefined	Definition— essential quality	Quality— non-essential quality	Relation— coincidental quality
Categories, Aristotelian	οὐσία		ποσόν ποιόν	πρός τι
Predicables, Aristotelian	γένος	ὅρος	ἴδιον	συμβεβηκός
Categories, Stoic	ὑποκείμενον	ποιόν	πὸς ἔχον	πρός τι πὸς ἔχον
Stases, Rhetorical	στοχασμός	ὅρος	ποιότης	μετάληψις

First, we see no direct relationship between the Aristotelian categories and the rhetorical stases because (1) neither ποσόν nor ποιόν can be interpreted to mean *exclusively* either definition or non-essential quality, and (2) no category was, in any case, intended by Aristotle to be anything but a state of existence outside of specific context.

Secondly, we see the Aristotelian predicables and the Stoic categories as the characteristic four-fold approach of the Peripatetics and Stoics to the study of primary substance. We see, also, that the terms differ but their meanings are similar.

Thirdly, we see the conjectural activity of the first rhetorical stasis as typical of any investigation conducted through an inexact art in contrast to a physical science. We expect the word used (στοχασμός) to be a step short of the existence already implied in such words as

in meaning with the third predicable and with the third Stoic category. We see the rhetorical μετάληψις as a reasonable substitution for the more general πρὸς τι; the former is not like the other relational terms in form or in meaning but it does cover legal action of a coincidental, accidental, and relational kind.

Finally, we recognize the physical origins of the word *stasis* and the appropriateness of the analogy between the physical stases and the rhetorical stases; we also understand Quintilian's comment to the effect that the first four categories *seem* to concern the stases, for they do so appear to concern them; we conclude, however, that the rhetorical stases stem more reasonably and directly from the traditional four-fold analysis of matter as seen in actual and customary Peripatetic and Stoic practice—not intrinsically a part of this analytical process itself, although borrowing terminology from it, the stases are seen as temporary halts or blocks set up and standing in the way of any one major (or subordinate) step in the analysis.

³⁰ For Posidonius' system, see Francis Striller, *De Stoicorum Studiis Rhetoricis* (Vol. 1, *Breslauer Philologische Abhandlungen*; Warsaw; Koebner, 1886), p. 15. For Theodorus, see C. W. Piderit, *De Apollodoro . . . et Theodoro . . . Rhetoribus* (Marburg; Elwert, 1842), p. 32.

GLADSTONE'S SPEECH AT NEWCASTLE-ON-TYNE

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LORD RUSSELL, British foreign minister during the American Civil War, suggested a plan of mediation in early October, 1862, that constituted "the most dangerous crisis in the war for the restoration of the Union."¹ This crisis was the manifestation of two crucial diplomatic problems faced by Abraham Lincoln throughout his administration; the first was keeping foreign countries from recognizing the Southern Confederacy and the second was appeasing the British over the blockade of the South. The central question throughout the battle of diplomacy was the recognition of the South, and related questions of mediation, intervention, and armistice. "Had the South won on any of these points, victory would have been well-nigh assured."² A *New York Times* correspondent wrote on October 11, 1862, that, "Recognition is better to the South than fleets and armies. If you permit of recognition, you may well make peace."³

The movement for recognition reached its high point during the month of October, 1862. On the 2nd of that month, Lord Palmerston, Prime Minister and advocate of recognition, wrote to Lord Russell that the South would surely accept recognition, that the North would resent it, and that the British need not "care about the resentment" in the spring when their naval force could operate off the American coast.

All would be settled, however, "if the acknowledgement were made at one and the same time by England, France and some other Powers . . ."⁴

Lord Russell and Lord Palmerston were supported and partly pushed by William Ewart Gladstone, the third man of the British triumvirate. At this time he was in his third term as Chancellor of the Exchequer; he had not yet attained the office of Prime Minister. He too favored recognition of the Southern Confederacy. The speech he delivered at Newcastle-on-Tyne, October 7, 1862, stirred the passions and prejudices of at least two continents; it very nearly resolved the question of recognition and thereby the fate of the American Union.

Like many British statesmen of his day, Gladstone believed that the American Civil War was wrong; he believed it was based on a false premise. On May 29, 1861, he wrote the Duchess of Sutherland that the Southern principle, "which asserts the superiority of the white man, and . . . his right to hold the black in slavery," was detestable to his way of thinking, but there was a broad distinction to be made between this principle and the question whether the North could justifiably "put down by war" the Southern people.⁵

When war began in the spring of 1861, "the ruling classes, especially the

¹ Ephraim D. Adams, *Great Britain and the American Civil War* (New York, 1925), II, 73.

² James G. Randall, *The Civil War and Reconstruction* (New York, 1953), p. 468.

³ *The New York Times*, October 26, 1862, p. 5.

⁴ Letter from Lord Palmerston to Lord Russell, October 2, 1862; as cited in E. D. Adams, II, 43-44.

⁵ Letter from William E. Gladstone to the Duchess of Sutherland, May 29, 1861; as cited in John Morley, *The Life of William Ewart Gladstone* (New York, 1932), II, 71.

mill owners and cotton merchants, regarded the secession of the southern States as another movement of national determination, and cherished strong sympathies for the southern aristocratic communities." "The working classes in general," David Thomson recorded, "led by the Radicals, saw that slavery was an issue involved in the Civil War and that the future of constitutional government and national unity lay with the forces of Lincoln and the North."⁶ The North, in the person of Charles Francis Adams, faced a most difficult task in keeping Great Britain from interfering in the war or in recognizing the Confederacy as a new nation. Not only were prominent Englishmen sympathetic to the Southern cause, but English newspapers were largely pro-South in their expressions; and in this, James G. Randall observed, "they but reflected the tone of 'society' in London."⁷

During the first year of the war, the Trent Affair threatened to destroy the diplomatic prospects of the North. This matter, over a period of three months, mainly through a fortunate exchange of letters between Charles Sumner and John Bright, was satisfactorily adjusted, however, and recognition was avoided. But the autumn of 1862 brought shortages of cotton and the crisis of intervention. Since England had a surplus cotton supply, the effect of the Northern blockade was not felt until the second year of the war. The cotton famine was at its peak at the end of 1862.⁸ The

serious distress that ensued from that condition is important to our consideration of Gladstone's speech at Newcastle because he was Chancellor of the Exchequer and the audience he addressed were the people who were most vitally affected by the blockade of American cotton. Morley wrote: "The blockade of the Southern ports, by stopping the export of cotton, was declared to have produced worse privations, loss, and suffering to England and France than ever produced to neutral nations by a war. It was not in Mr. Gladstone's nature to sit with folded hands in sight of what he took to be hideous and unavailing carnage and havoc."⁹ And the Chancellor did not sit still—his speech was a bomb-shell delivered in an explosive situation.

The text of a series of letters between the Prime Minister, Lord Palmerston, and the Chancellor, Mr. Gladstone, is enlightening for a full understanding of the Newcastle speech. In a letter postmarked September 24, 1862, Palmerston wrote that he and Lord Russell thought it was about time for England, France, and Russia to offer mediation to the North and South. "Of course," he added significantly, "no actual step would be taken without the sanction of the cabinet."¹⁰ Gladstone replied that, "He was glad to learn what the Prime Minister had told him, for two reasons especially he desired that the proceedings should be prompt. The first was the rapid progress of the Southern arms and the extension of the area of Southern feeling. The second was the risk of violent impatience in the cotton-towns of Lancashire, such as would prejudice the dignity and disinterestedness of the prof-

⁶ David Thomson, *England in the Nineteenth Century* (Baltimore, 1955), p. 158.

⁷ Randall, p. 462.

⁸ Frank L. Owsley, *King Cotton Diplomacy: Foreign Relations of the Confederate States of America* (Chicago, 1931), p. 149. See also: H. J. Habakkuk, "Free Trade and Commercial Expansion, 1853-1870," *The Cambridge History of the British Empire*, ed. J. Holland Rose, A. P. Newton, and E. A. Benians (Cambridge, 1940), II, 774-775.

⁹ Morley, II, 75.

¹⁰ Letter from Lord Palmerston to Mr. Gladstone, September 24, 1862; *Ibid.*, p. 76.

ferred mediation."¹¹ More interesting perhaps was this exchange: in Palmerston's letter of September 24th he requested that the Chancellor "... not be too sympathizing with the Tax Payer, not tell the country that they are paying too much Taxation . . . or agitate them to demand" further economic reform. Gladstone reassured the Prime Minister, "With respect to the Dinner at Newcastle, and the speech it will require, I have no difficulty, known to myself, in giving you satisfaction."¹²

The trip to Newcastle-on-Tyne was a return for the Chancellor to the part of England in which he had been born and with which he had always sympathized. His visit was part of a "triumphant political tour of the industrial North-East."¹³ He found himself hailed for the first time as the Parliamentary hero of the masses, and the popular refrain ran:

Honour give to sterling worth.
Genius better is than birth!
So here's success to Gladstone!¹⁴

One can sense the excitement of the moment from this colorful resumé by Morley:

The people of the Tyne gave him the reception of a king. The prints of the time tell how the bells rang, guns thundered, a great procession of steamers followed him to the mouth of the river, ships flew their gayest bunting, the banks were thronged with hosts of the black-handed toilers of the forges, the furnaces, the coal-staiths, chemical works, glass factories, shipyards, eager to catch a glimpse of the great man; and all this not because he had tripled the exports to France, but because a sure in-

stinct had revealed an accent in his eloquence that spoke of feeling for the common people.¹⁵

Gladstone's concept of oratory offers some insight into his speech at Newcastle. He thought that it was the choice of the orator "to be what his age will have him, what it requires to be moved by him, or else not be at all."¹⁶ He asserted in his essay on public speaking that, "... the manner is not only a thing of the moment, but of greater moment than the matter." Although he believed in the Aristotelian dictum that the purpose of communication is to make truth effective, he excelled in and emphasized speech delivery. Without an emphasis on adapting to an audience, Gladstone felt that a speech would be "void of living energy, which can only arise like a spark of fire from flint, out of the impact of mind with mind."¹⁷

If one accepts the analysis of John Morley, author of the comprehensive biography on Gladstone, it is not difficult to discern why the Chancellor favored the physical aspect of speech communication. Morley glowingly describes his persuasive powers thus:

Among Mr. Gladstone's physical advantages for bearing the orator's sceptre were a voice of singular fulness, depth, and variety of tone; a falcon's eye with strange imperious flash; gestures mobile, expressive, and with lively play; a great actor's command of gesture, bold, sweeping, natural, unforced, without exaggeration or a trace of melodrama. His pose was easy, alert, erect.¹⁸

Philip Magnus, who has written the most recent biography, agrees in essence with Morley's evaluation. He noted particularly that Gladstone was a "singular-

¹¹ Letter from Mr. Gladstone to Lord Palmerston, September 25, 1862; *Ibid.*, pp. 76-77; See also: Philip Guedalla, ed., *Gladstone and Palmerston: Being the Correspondence of Lord Palmerston with Mr. Gladstone, 1851-1865* (New York, 1928), pp. 233-36.

¹² The same letter as cited in Guedalla, p. 235.

¹³ Philip M. Magnus, *Gladstone: A Biography* (London, 1954), p. 153.

¹⁴ Morley, II, 77; also cited in Magnus, p. 153.

¹⁵ Morley, II, 77.

¹⁶ William E. Gladstone, *Studies on Homer and the Homeric Age* (Oxford, 1958), III, 107.

¹⁷ From an original essay by Mr. Gladstone on public speaking. See: Loren Reid, "Gladstone's Essay on Public Speaking," *Quarterly Journal of Speech*, XXXIX (October, 1953), 268.

¹⁸ Morley, I, 191.

ly graceful speaker," that "his wealth of language appeared to be inexhaustible," and that "the most attractive feature of his oratory was the melodious voice, which was much the finest organ of its kind in Parliament."¹⁹ Gladstone was not only praised for his ability to deliver speeches. Morley reminds us that he "conquered the house, because he was saturated with a subject and its arguments . . ."²⁰

James Bryce, in his short work on Gladstone as an orator, made an observation that is pertinent to this consideration of the speech at Newcastle. We have indicated that Gladstone's speeches were audience oriented and that he was quite effective as a political and public speaker. Bryce adds to these factors the observation that the Chancellor was impulsive. "He kindled quickly, and when kindled, he shot forth a strong and brilliant flame."²¹ "His impulsiveness," Bryce remarked, "sometimes betrayed him into declarations which a cooler man would have abstained from."²²

Gladstone's effectiveness in adapting to audiences outside of Parliament helped earn for him the title once held by the elder Pitt, Lord Chatham, "the great commoner." He earned his high rank as an orator not by speeches of stylistic excellence, nor by the fact that his speeches have lasted and are read as masterpieces of composition, but from

the impressions produced by his speeches upon his contemporaries.

October 7, 1862, was the day of the speech. The *London Times* reported that, "All the tickets for the dinner had been sold several days ago, and there was a large number of persons from all parts of the country who were anxious to be present, but who could not get admission for want of room. After the dinner the side elevations and galleries were filled with ladies, who gave the hall a lively appearance."²³ It is not clear whether Gladstone had prepared extensively for this particular speech, but two factors suggest that he probably did. First, it was his habit to prepare carefully. Secondly, he wrote in his diary on that day that he had, "Reflected further on what [he] should say about Lancashire and America, for both these subjects are critical . . ."²⁴

After the banquet which was held in Newcastle town hall, the Mayor of the city complimented the visiting "hero" and the audience loudly acclaimed its approval. The orator rose to speak and was "loudly cheered." The *London Times* report of the speech is punctuated by bracketed exclamations of "Hear! Hear!" and "Cheers!" Magnus has written that "the outstanding feature of Gladstone's oratory was the way in which it was adapted to its audience."²⁵ The reported reactions of the audience suggest that this speech was especially well adapted. The subject matter of the speech was of vital interest to them. The first two-thirds of the speech dealt with the French treaty, which had been

¹⁹ Magnus, pp. 48-49.

²⁰ Morley, I, 193. For a fuller description of Gladstone as a speaker see: Loren Reid, "Gladstone's Training as a Speaker," *Quarterly Journal of Speech*, XL (December, 1954), 373-380; Loren Reid, "Gladstone's Theory of Parliamentary Debating," *Bulletin of the Debating Association of the Pennsylvania College*, XX, No. 24 (1945); Albert A. Austin, "Gladstone's Characteristics as a Speaker," *Quarterly Journal of Speech*, XLIV (October, 1958), 244-254.

²¹ James Bryce, *William Ewart Gladstone: His Characteristics as Man and Statesman* (New York, 1898), p. 9.

²² *Ibid.*, p. 31.

²³ *The Times* (London), October 8, 1862, p. 7.

²⁴ Morley, II, 78. The actual extent of Gladstone's preparation for this speech may never be determined. Pamela J. Willets, Assistant Keeper, Department of Manuscripts, British Museum possesses only "a copy (not in W. E. Gladstone's hand) of Extracts from Mr. Gladstone's speech at Newcastle October 7, 1862 . . ."

²⁵ Magnus, p. 49.

brought about by the Gladstone administration, and had "been a greater boon to the iron manufacturers of that young but rising seaport, than to any other class of commercial men in the North of England."²⁶

"From Lancashire to America the transition was easy."²⁷ The *London News* reported that "his references to the North were most kindly and honorable."²⁸ When he got to the situation in the South, the shock came. Cries of "Hear! hear!" greeted his comment that, "We may anticipate with certainty the success of the Southern States so far as regards their separation from the North. I cannot but believe that that event is as certain as any event yet future and contingent can be."²⁹ Possibly Gladstone was impressed by the failures of McClellan and Pope, and the prospects of Lee's new offenses and this caused his attitude toward the American situation; whatever his motive he continued in fiery fashion. For then, "The applause for once went to his head," and he pronounced the sentence that shook the sentiments of both continents.³⁰ He said:

We may have our own opinions about slavery; we may be for or against the South; but there is no doubt that Jefferson Davis and leaders of the South have made an army, they are making, it appears, a navy; and they have made what is more than either—they have made a nation.³¹

The report was that this "announcement caused great sensation."³²

After the speech, the excitement continued. "That statement reverberated round the world and caused a profound

sensation. Everyone supposed that it implied that Great Britain was about to recognize the Southern Confederacy . . ."³³ Charles Francis Adams, ambassador to England, recorded his reactions to the pronouncements of Gladstone in his diary. On October 8th, the next day after the speech, Adams noted that, "If Gladstone be any exponent at all of the views of the cabinet, then is my term likely to be very short." The day after this comment was made, he wrote, "We are now passing through the very crisis of our fate."³⁴ The *New York Times* was equally concerned about the ominous import of the now famous announcement. The correspondent for that paper in London reported that, "The whole game is prepared, and the first move was the speech of Mr. Gladstone at Newcastle. It is the beginning of the end." In the same article he made the prediction that recognition was only a matter of time. "Nine-tenths of the governing people of England are in favor of it. It has been this week announced by Gladstone as a fixed and inevitable fact."³⁵ Two weeks after the speech, on the 23rd of October, Adams recorded in his diary that, "If I had entirely trusted to the construction given by the public to a late speech, I should have begun to think of packing my carpet-bag and trunks."³⁶

The first sentence of a letter from Richmond, Virginia, published in the *New Orleans Times Picayune*, suggests the reaction of the Confederates. "You can not imagine how gay we were on

³³ Magnus, p. 153; E. D. Adams, II, 47; Randall, p. 469; Morley, II, 79; James Ford Rhodes, *History of the United States from the Compromise of 1850-1877* (New York, 1912), IV, 339-40.

³⁴ Charles Francis Adams, Jr., *Charles Francis Adams*, Vol. XXIX of *American Statesmen*, ed. John T. Morse, Jr. (New York, 1900), pp. 286-287.

³⁵ *The New York Times*, October 26, 1862, p. 5.

³⁶ C. F. Adams, p. 289.

²⁶ *The Newcastle Daily Chronicle*, October 11, 1862; as cited in Morley, II, 78.

²⁷ *The New York Times*, October 25, 1862, p. 2.

²⁸ *Ibid.*

²⁹ *The Times* (London), October 9, 1862, p. 7.

³⁰ Magnus, p. 153.

³¹ *The Times* (London), October 9, 1862, p. 7.

³² *Ibid.*

Saturday with rumors of recognition."³⁷ In an excerpt from the *Richmond Examiner*, the *Times Picayune* reported an article in which it was stated on the basis of "a number of facts" that if the Confederacy won certain military battles "beyond all reasonable doubt" it would be recognized.³⁸ By December the 9th the situation had changed. According to an editorial in the *Times Picayune*, the papers of Richmond were as "bitter against England for refusing to recognize them as Northern papers some time ago were for supposed Southern proclivities."³⁹

Somewhat typical of the reactions of the press in England to Gladstone's Newcastle speech was that of the *London Herald*.

... if on this occasion he has spoken without authority, he has committed a very heinous indiscretion . . . Either [the] Government should act up to this deliberate language, or Mr. Gladstone should forthwith cease to be its Chancellor of the Exchequer.⁴⁰

The *London News* took essentially the same view. This paper expressed the idea that, "No Minister has the right to foreshadow the dismemberment of an ally, or to gratify his individual predilections by giving just cause of umbrage to a community with whom we profess to hold friendly relations. But whatever is to be done," concludes the article, "let it be an act of State, not of whim—of grave diplomacy, not of rhetorical passion—of deliberate counsel by the whole Administration, not of fancy or impulse by an isolated Minister on a provincial tour."⁴¹ Of course, not all the press was

against Gladstone or his views on the American question. Representative of the group that agreed with him was the *London Globe*. "Perhaps," the article gently admonished, "as a Cabinet Minister, it might have been better that he should have considered more carefully beforehand what might be inferred from his words, as well as what he directly meant to express; but Mr. Gladstone, the statesman cannot always keep down the great member of Parliament."⁴²

The Newcastle speech ended somewhat ironically. The Chancellor spoke for Italian unity and freedom. John Bright, the outstanding Parliamentarian who opposed the Confederacy on the basis of the slavery issue, wrote Charles Sumner, the prominent American Republican Senator, three days following the speech. "He is unstable as water in some things; he is for union and freedom in Italy, and for disunion and bondage in America."⁴³

Business in England was soon affected by the speech. "The speculative market, sensitive barometer of governmental policy, immediately underwent such violent fluctuations as to indicate a general belief that Gladstone's speech meant action in the war."⁴⁴ Another result of the speech was a petition made by the "Southern Association" of Lancashire to recognize the Southern States.⁴⁵ The business interests of London reacted differently according to the *London Times City*. "Although the fact that the Confederate States of America have virtually established their independence, is now almost universally admitted," the paper

³⁷ *The New Orleans Times Picayune*, November 11, 1862, p. 1.

³⁸ *Ibid.*, November 15, 1862, p. 1.

³⁹ *Ibid.*, December 9, 1862, p. 2.

⁴⁰ *The London Herald*, October 13, 1862; as cited in *The New York Times*, November 2, 1862, p. 2.

⁴¹ *The London News*, October 14, 1862; as cited in *The New York Times*, November 2, 1862, p. 2.

⁴² *The London Globe*, October 13, 1862; as cited in *The New York Times*, November 2, 1862, p. 2.

⁴³ Letter from John Bright to Charles Sumner, October 10, 1862; as cited in Magnus, p. 154.

⁴⁴ E. D. Adams, II, 48.

⁴⁵ *The New York Times*, October 25, 1862, p. 2.

reported on the 11th of October, "the feeling among the commercial classes in London is as strongly opposed as ever to any action on the part of our Government toward a formal recognition of the dissolution of the Union."⁴⁶

As the evidence indicates, confusion was the temper of the times following Gladstone's speech at Newcastle. No one seemed to know for sure what the attitude of the British Government was toward intervention, mediation or recognition. At Hereford, England, one week after the Newcastle speech, G. C. Lewis, English secretary of war, declared that it could not be said the Southern States of the Union "had *de facto* established their independence."⁴⁷ The *London Daily News* praised the remarks of Lewis; the remarks they felt would "go far to still the rising clamor of reckless and thoughtless men."⁴⁸ Two days after this article appeared, Charles L. Ryan, private secretary of Gladstone, was authorized to publish an explanation of the comment from the Newcastle speech that had so stirred public sentiment. The article was in the form of a letter written to a Thomas Mosley. His words at Newcastle, Ryan wrote, "were no more than the expression, in rather pointed terms, of an opinion which Mr. Gladstone has long ago stated in public, that the efforts of the Northern States to subjugate the Southern ones is hopeless, by reason of the resistance of the latter."⁴⁹ In a second letter to a Manchester merchant, Ryan explained that, "... the Confederation which has been formed

under Jefferson Davis, has shown itself to be sufficiently supplied with the elements which make up a nation, and with will and power to defend its independent existence."⁵⁰

Throughout the remainder of Gladstone's life he remembered and was reminded of his error. On November 27, 1862, a month and a half after the speech, he wrote to Cyrus Field: if he had only the interests of England to consider "and had the power of choosing in what way the war would end," he would have chosen "for its ending by the restoration of the old union that very day."⁵¹ Five years after the speech he told a New York correspondent: "I must confess that I was wrong; that I took too much upon myself in expressing such an opinion."⁵² Thirty-four years later, in 1896, he wrote in his diary that the error was "most singular and palpable," and the "least excusable of them all." He concluded his reminiscence of that event by writing that, he "really, though most strangely, believed that it was an act of friendliness to all America to recognize that the struggle was virtually at an end." He did "not perceive the gross impropriety of such an utterance from a cabinet minister."⁵³

Ultimately, Gladstone's comment could have led to recognition of the Southern Confederacy and a permanent dissolution of the American Union. At this juncture, however, Lee was repulsed at Antietam and Lincoln issued the Emancipation Proclamation. A third factor that deterred British recognition of the Confederacy was the fear of a war with the North. On October 22nd,

⁴⁶ *The Times City* (London), October 11, 1862; as cited in *The New York Times*, October 25, 1862, p. 2.

⁴⁷ Morley, II, 80.

⁴⁸ *The London Daily News*, October 14, 1862; as cited in *The New York Times*, November 3, 1862, p. 1.

⁴⁹ *The New York Times*, November 9, 1862, p. 2.

⁵⁰ *Ibid.*

⁵¹ Letter from Mr. Gladstone to Cyrus Field, November 27, 1862; as cited in Morley, II, 71.

⁵² Frank W. Gunsaulus, *William Ewart Gladstone: Biographical Study* (American Educational League, 1898), p. 189.

⁵³ Morley, II, 81-82.

Lord Palmerston wrote Lord Russell that they must "continue to be lookers-on till the war shall have taken a more decided turn."⁵⁴ Gladstone blamed the reversal on Lord Russell. He wrote his wife that "the United States affair has ended and not well. Lord Russell rather turned tail."⁵⁵ E. D. Adams observed that, "Public opinion in England in the main heartily supported the cabinet decision."⁵⁶

If measured by its intent, to impress and to stimulate, Gladstone's speech was a success. The audience was stirred to cheers of approval and in the excitement Gladstone was in turn moved to say that Jefferson Davis had created a nation.

⁵⁴ E. D. Adams, II, 55; also cited in Morley, II, 85.

⁵⁵ E. D. Adams, II, 65.

⁵⁶ *Ibid.*, p. 66.

The error was a matter of misjudgment of the moment and over-adaptation to an immediate audience. Gladstone rationalized his experience at Newcastle by saying that, "It illustrates vividly that incapacity of viewing which my mind so long retained, and perhaps still exhibits, an incapacity of viewing subjects all round, in their extraneous as well as their internal properties, and thereby of knowing when to be silent and when to speak."⁵⁷ Be this the reason or no, rhetorically his experience reasserts the need of the orator-statesman, in adapting to an audience, to consider not only his immediate listeners, but also those who form the larger audience, those of his society, and even those of mankind itself.

⁵⁷ Morley, II, 82; also cited in Magnus, p. 154.

DEVELOPMENT OF A SEMANTIC DIFFERENTIAL FOR USE WITH SPEECH RELATED CONCEPTS

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ACCURACY and validity of measurement in the area of connotative meaning of sign-symbol behavior has proved a most stubborn barrier to progress in understanding communication. Except for the Woodward-Utterback shift-of-opinion ballot, the Gilkinson "Personal Report of Confidence of Speaker" inventory, the Knowler "Speech Attitude Scale," and a limited number of others, the measuring instruments used by experimental workers in speech have frequently been borrowed from educational, social, personal, and industrial psychologists.¹

Psychologist Charles E. Osgood and associates at the University of Illinois have developed a rating scale which seems to hold great promise for measuring the clusters of associational meanings which become attached to concepts and the words which evoke them. The lack of a similar measuring instrument for standardizing the meaning of speech related concepts have proved troublesome both for critics of speech performance and for experimentalists attempting to deal with research problems in the area. This study was directed specifically to meeting this need. It replicates a part of the basic develop-

mental studies out of which Osgood's generalized instrument for measuring meaning was produced; it is based upon the Osgood rationale.

This study applied Osgood's technique of scale development to speech concepts and to subjects who had been subjected to varying amounts of speech training in an attempt first to identify and define the dimensions along which speech concepts are judged, and as a consequent to make available a new and useful measuring instrument for speech critics and experimental research students. In order to do this it was necessary to obtain a large number of judgments of speech concepts, to determine the closeness of relationship of these judgments, and to discover and identify the common factors among them. The remainder of this paper is devoted to a description of the manner in which these processes were carried out in developing the semantic differential for speech.

By utilizing the Osgood findings relative to the principal dimensions of semantic space as a point of departure, this study was shortened materially. Nevertheless, it involved a 30,000 item cube of data, 435 Pearson product-moment coefficients of correlation with 1000 pairs of variables in each coefficient, and a Thurstone centroid factor analysis of a 29x29 correlation matrix with a varimax rotation.

Osgood isolates and defines the universal and significant dimensions of intensional or connotative meaning which

¹ See the list appended to the article by Jack Douglas, "The Measurement of Speech in the Classroom," *The Speech Teacher*, VII (1958), 309-319.

See also such studies as H. S. Woodward, "Measurement and Analysis of Audience Opinions," *QJS*, XIV (1928), 94-111; R. A. Likert, "A Technique for the Measurement of Attitude," *Archives of Psychology*, XXII (1932), 140-152; L. L. Thurstone and E. J. Chave, *The Measurement of Attitude* (Chicago, 1929).

can be applied to any aspect of verbal behavior, rather than limiting his study to changes of attitude. His attack is narrower than some of the preceding studies in the sense that the units of meaning with which it deals are not propositions, that is, are not complete sentences, but rather consist of concepts symbolized by single words or short substantive phrases.

In his basic hypothesis, Osgood defines meaning operationally as the point of intersection of the component dimensions upon which a meaningful object has been judged. A simple example illustrates his use of the term "dimensions." Assume that one wishes to locate a point of space. He may employ scales of any number of appropriate units—centimeters, inches, feet, yards—with dimensions running from right to left, front to back, and up and down. Beginning from any convenient origin he might find his measurements to be 3 units to the right, 20 units to the front, and 4 units up. The locus of intersection of these three dimensions would determine the exact location of the point.

In similar fashion the "meaning" of a concept is located by discovering its dimensions and then determining the distance along each dimension which indexes its position. Semantic differential scaling is simply a multiple-step process of defining which yields a progressively more accurate definition by systematically reducing the area of uncertainty surrounding the intensional meaning of a concept. This is accomplished by a series of successive choices which index the intensity and polarization (direction) of the concept's meaning for the subject. Each scale measures to some degree one or more dimensions of experience. If for instance, *people in general* would rate the concept *apple* as

extremely good, slightly sweet, neither hot nor cold, extremely healthful, etc., on a group of appropriate adjectival scales, exact meaning of the term could be established and the judgmental bases could be determined as well. The Osgood scales are seven-step bi-polar adjectival scales representing linear functions and passing through a common origin. With a sufficiently large, sufficiently diversified number of scales to cover its various dimensions, it is assumed that meaning can in this manner be definitely and accurately located.

Osgood developed a valid and reliable instrument of a nature which can be applied generally for the measurement of connotative meaning. He carefully considered, in addition to validity and reliability, the other standard criteria for measuring instruments, including objectivity, sensitivity, comparability, and utility. Osgood reports on a sizable number of studies in which the Semantic Differential has been used in studying over a period of time changes in meaning both for groups and for individuals. Such changes range all the way from the conceptual structures concerning persons and issues for voting groups to comparisons of shifts of an individual's conceptual structures in the case of a schizophrenic undergoing psychotherapy.

Numerous approaches were used in finding and testing these scales. These are well reported in *The Measurement of Meaning*,² and space does not permit reviewing them all here. Mention of three, however, should serve to demonstrate the thoroughness of the method.

Forty nouns were selected from the Kent-Rosanoff list of words for free association. These were read fairly rapidly

² Charles E. Osgood, George J. Suci and Percy H. Tannenbaum, *The Measurement of Meaning* (Urbana, 1957).

to 200 undergraduate students who were instructed to write down the first descriptive adjective which occurred to them. The most commonly noted of these responses were then placed as polar terms in seven step scales ranging from positive through zero to negative. If the terms were, for instance, "hot" and "cold," the seven scale steps would then be: extremely hot, quite hot, slightly hot, neither hot nor cold, slightly cold, quite cold, and extremely cold. Fifty such scales were constructed.

Twenty concepts were selected at random for scaling, including such terms as *Lady*, *Boulder*, *Sin*, *Father*, *Lake*, etc. A group of 100 students then scaled each concept. This generated a 100x20x50 or 100,000 cell cube of data.

These data were summed over subjects and concepts, generating a 50x50 correlational matrix of every scale with every other scale, the Pearson product-moment coefficients of correlation being computed on IBM equipment. Thurstone's Centroid Factor Method³ was then applied to the matrix by means of ILLIAC.⁴ The factor analysis was stopped after the fourth factor; it appeared to be a residual, accounting, as it did, for less than 2 per cent of the variance.

The first three factors, however, accounted for a large portion of the variance, indicating that these factors might constitute the basis upon which these subjects judged this group of concepts. The first factor was evaluative, the second a power or potency factor, and the third an activity factor. Nearly half of the total variance could be accounted for in terms of the first three factors.

³ L. L. Thurstone, *Multiple-factor Analysis* (Chicago: 1947).

⁴ ILLIAC is the University of Illinois electronic computer.

The second study used a forced choice design between pairs of polar terms; the subjects were asked to decide whether one polar term, *straight*, for example, was more like the word *noble* or *bestial* in meaning. Thus there were no concepts entering into this design, merely polar adjectives. Again the results were approximately the same.

In the third study familiar pairs of polar terms from Roget's *Thesaurus* were selected. This was an attempt to introduce a wider selection of terms for the polar scales. In this experiment 100 subjects used 16 scales for rating 20 concepts and again Pearson *r*'s were found between scales. The data were analyzed to eight factors by factor analysis and the same three factors were again found to account for the largest portion of the variance.

Evidence from these and similar studies indicates that in judging concepts in general there are three principal factors or dimensions of meaning upon which most judgments are based. Numerous experimentalists⁵ have already made use of these findings by applying the Semantic Differential to such diverse fields as Navy sonar signals, representational and abstract art forms, normal versus schizophrenic judgments, fidelity of rhetorical clarity, and others.

Before undertaking semantic differential research in speech, experimenters must determine whether the same scales and factors that apply to judgments in

⁵ Included are L. N. Solomon, *A Factorial Study of Complex Auditory Stimuli*, unpubl. diss. (Illinois 1954); W. T. Tucker, *Experiments in Aesthetic Communications*, unpubl. diss. (Illinois 1955); Joan Bopp, *A Quantitative Semantic Analysis of Word Association in Schizophrenia*, unpubl. diss. (Illinois 1955). These three studies are well described by Osgood. See also Roger E. Nebergall, "An Experimental Investigation of Rhetorical Clarity," *SM*, XXV (1958), 243-255.

general⁶ also apply to speech judgments. Hypotheses to be tested concerning any set of scales to be used as a measuring instrument for speech concepts then, are: first, the factors used in making speech judgments (judgments of speech concepts) are the same as those used in making judgments in general; second, the scale loadings are relatively high and pure for these factors. The present experiment was designed to test these hypotheses.

II

A sample of ten concepts representative of the basic parts of a total speech situation, namely speech, audience and speaker, were selected. These were chosen against the usual criteria of unitary meaning, familiarity to the subjects, and relevance to the general speech field. They were:

	public speeches
	political speeches
the speech:	classroom speeches
	emotional appeals
	reasoning
	persuasion
the audience:	audience
	stage-fright
the speaker:	gestures
	me as a speaker

Twenty-nine different scales chosen from various lists in the Osgood studies were selected on the basis of factor loading on the three most important factors identified—evaluation, potency, and activity—and upon literal application to speech concepts. One of the scales (no. 9) was repeated (as no. 30) in order to supply both a rapid inspection check for

subject grasp of test instructions and to furnish a self-correlation reliability index.

After the differential test forms had been filled out by a total of 115 subjects, scales nos. 9 and 30 were compared for each subject. Six subjects failed either to understand the correct method of marking the scales, or else the concepts used had no fixed connotations for them; consequently these six papers were eliminated.

One hundred of the remaining subjects, a cross section of Indiana University Speech and Theatre students, were selected from seven different courses. The subjects ranged from freshman to and including second year graduate students, and the speech correction, theatre, and public address areas were each represented. It was assumed that the results from a sample so selected might be applicable to populations of speech students in general. All subjects had enrolled in a minimum of 2 semester hours in the speech department and the range was from 2 to 60 with a mean of 13.9 semester hours.

The experimenter explained the importance and method of the research to the subjects and asked them to omit no questions. Inspection of each test as it was completed indicated that the response was unusually good except for the six papers previously mentioned.

Although Osgood has demonstrated that a correlational index of test-retest reliability with the Semantic Differential may not be meaningful, he correlated test-retest scores of 40 scale items with 20 concepts for 100 subjects and found a positive correlation of $+0.85$.⁷ In the present study, scale 9 was repeated as scale 30 so that the 100 subjects re-rated the same ten concepts on the same

⁶ Osgood has noted that, "It is also evident that the functional semantic space is to some degree modifiable in terms of what kinds of concepts are being judged, i.e., the relative importance and relationship among factors may vary with the frame of reference of judgments." *The Measurement of Meaning*, p. 72.

⁷ Osgood, p. 126-127.

scale. Summing across concepts and subjects produced an N of 1000 and the self-correlation of this scale was $+.847$. The question might logically be raised as to whether the observed correlation was spuriously high as a result of the test-retest occurring during the same testing session. Such might in fact be the case; however, Osgood reports that none of his subjects gave any indication of having noticed the repetition of test items, nor was there any apparent awareness of it during the present study. The criterion for reliability across concepts has apparently been met.

The data were collected during a two week period of the second semester, 1957-58. The raw scores were processed on the 650 IBM magnetic drum data processing machine with a Pearson product-moment correlation program which summed over subjects and concepts to generate the 30×30 intercorrelational matrix of every scale with every other scale. Each of the thirty scales thus elicited 100×10 , or 1000 responses. Thus every scale was paired with every other scale 1000 times, with each subject contributing ten pairs and each concept 100 pairs.

Following the computation of the 30×30 correlation matrix (and the elimination of scale no. 30 to avoid overweighting scale no. 9), the matrix was submitted to ILLIAC for a preliminary factor analysis⁹ using ones as communalities to determine the number of factors. This analysis indicated that the first six factors accounted for 99.977 per cent of the total variance and the decision was therefore made to limit the final analysis to six factors. This Thurstone centroid structure was rotated by what is known

as the varimax method.⁹ This method provided a number of scales with factor loadings sufficiently "high" and "pure" for use in the speech semantic differential. Table I shows the results of this analysis. The last five digits have been dropped and the factor loadings (indicated under Roman numerals) rounded to two places. The symbol h^2 customarily indicates the sum of the squares of the variances extracted.

Table I shows that five factors are clearly identifiable instead of the three found in the studies described by Osgood. Also, the factor loadings¹⁰ are much more evenly distributed among these five factors than was the case when the quartimax method of rotation was used. The previously high loadings on factor I (the evaluative factor) shifted away from that factor to various other dimensions of meaning. Speech critics should note that the bad-good scale has its heaviest loadings equally distributed between factors I and IV. This apparently indicates an ambivalent scale. That is to say, when a critic rates a speech as "good" or "bad" it is impossible to determine whether he is referring to the optimism-positivism of the speech, or to its honesty, or to both.

The ideal scale is one which is heavily loaded on the factor it measures and minimally loaded on all other factors. The five factors identifiable from Table I are each represented by a number of scales. The two scales highest for both factor loading and purity have

⁹ Henry F. Kaiser, "The Varimax Criterion for Analytic Rotation in Factor Analysis," *Psychometrika* XXIII (1958), 187-200. According to Kaiser the varimax method apparently distributes factors loading better than did the earlier methods which tended to concentrate the principal loading on the first factor.

¹⁰ The "factor loading" is an index of the communality shared by a group of tests. In the present instance it is an index of the extent to which the scales measure the same dimension of meaning.

⁸ The data were processed at the University of Illinois by Mr. Kern Dickman who wrote the quartimax program for ILLIAC.

TABLE I
ORTHOGONAL VARIMAX FACTORS

	I	II	III	IV	V	VI	h ²	
1	+.55	+.22	-.02	-.03	-.22	+.17	.43	aggressive-defensive
2	+.54	-.06	+.20	-.56	-.03	-.03	.64	good-bad
3	+.36	-.13	+.53	-.29	+.16	+.07	.54	fair-unfair
4	+.55	+.02	+.29	-.33	-.12	+.12	.52	successful-unsuccessful
5	+.61	-.22	+.16	-.43	+.04	-.06	.63	pleasant-unpleasant
6	+.65	-.02	+.13	-.03	+.09	+.08	.45	optimistic-pessimistic
7	+.69	+.05	+.01	-.25	+.06	-.10	.55	positive-negative
8	+.37	+.10	+.48	-.21	+.03	-.01	.41	complete-incomplete
9	+.45	+.13	+.07	-.27	-.27	-.11	.38	timely-untimely
10	+.27	+.05	+.13	-.75	+.02	-.02	.65	valuable-worthless
11	+.09	-.11	+.73	-.20	+.17	-.08	.62	honest-dishonest
12	+.47	+.23	+.17	-.42	-.30	-.07	.56	strong-weak
13	+.48	+.16	+.36	-.20	-.07	+.08	.43	brave-cowardly
14	+.01	+.61	-.01	-.09	-.17	-.09	.41	heavy-light
15	+.03	+.60	-.17	-.02	-.25	-.14	.47	severe-lenient
16	+.17	+.32	-.02	+.07	+.00	+.24	.19	masculine-feminine
17	+.00	+.54	+.04	-.06	+.03	+.03	.30	serious-humorous
18	+.17	+.44	-.04	-.00	-.14	+.22	.29	tenacious-yielding
19	+.11	+.15	+.28	-.61	-.04	+.22	.54	important-unimportant
20	+.13	+.10	+.23	-.75	-.07	-.10	.65	meaningful-meaningless
21	+.57	-.01	+.28	-.36	-.22	-.10	.58	graceful-awkward
22	+.30	+.26	+.10	-.18	-.35	+.22	.36	active-passive
23	-.14	+.16	-.22	-.01	-.55	+.08	.40	excitable-calm
24	+.10	-.10	+.29	-.22	+.32	-.33	.36	cautious-rash
25	+.17	+.14	-.11	-.14	-.63	-.04	.48	hot-cold
26	-.21	+.31	-.08	-.03	+.13	+.19	.19	complex-simple
27	+.28	-.08	+.22	-.61	-.29	-.10	.59	interesting-boring
28	+.07	-.04	+.72	-.18	+.05	-.04	.55	true-false
29	+.28	-.03	+.08	-.50	-.49	-.06	.57	colorful-colorless

limits indicated as follows, where x is the lowest loading of either scale on the factor the two scales have been selected to represent, and y is the highest loading on any of the four remaining factors.

to represent the dimensions of each of these five factors produces a ten-scale measuring instrument, one short and simple enough to be practical for use in judging a wide variety of speaking performances, both classroom and ex-

Factor	Loading		Scale Numbers
I Optimism (positivism)	$x > .65$	$y < .25$	6,7
II Seriousness	$x > .54$	$y < .17$	14,17
III Honesty	$x > .72$	$y < .20$	11,28
IV Value	$x > .75$	$y < .27$	10,20
V Poise (manner)	$x > .55$	$y < .22$	23,25

These five factors, then, appear to be the basic ones upon which speech related concepts are judged by speech students. The selection of two scales

perimental. Whether this form of the speech semantic differential will prove to be an adequate measure for research in theatre arts and speech correction re-

mains to be seen, but there is no evidence to indicate otherwise at the moment. New and more suitable scales can easily be substituted for the ones listed here as soon as whatever they measure has been identified and the scales tested for factor loading and purity. In the meantime the instrument in its present form can be used with many kinds of speech studies. It might well be used in conjunction with other rating scales or inventories and correlations determined between different kinds of measurements of the same speech concepts.

The speech semantic differential consists, then, of the following ten scales, the only difference between the form of the instrument as printed below and the one which the experimenter or critic may duplicate for his own use is that the scales as listed here should probably be randomized in order to break up the factor pattern. (Each pair of scales as given below measures one of the five factors.)

In scoring the differential scale polarity presents no problem when the D formula is being used as this formula involves the squares of measurements with resultant elimination of sign. All that is then necessary is that consistency of polarity for the scale pairs (representing the same dimension) be the same and that it be held constant for the two administrations of the instrument. Osgood noted shifts in polarity with changes in concept; it is therefore impossible to determine an absolute scale polarity apart from the conceptual structure within which it is to operate. It is probable, for instance, that with certain speeches (e.g. after-dinner) polarity of the serious-humorous scale would be reversed, making humorous the plus end.

The polarities of the left sides of the ten scales in order as read from Table I are: (1) plus, (2) minus, (3) minus, (4) plus, (5) plus, (6) plus, (7) plus, (8) plus, (9) plus, and (10) plus. It is logically untenable that "worthless" and

SEMANTIC DIFFERENTIAL FOR SPEECH
CONCEPT (whatever speech concept is being rated)

optimistic	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	pessimistic
negative	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	positive
light	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	heavy
serious	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	humorous
honest	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	dishonest
true	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	false
worthless	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	valuable
meaningless	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	meaningful
calm	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	excitable
cold	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	hot

Each semantic differential should, of course, include instructions specifying *what* is to be rated and indicating that checks at the extreme position mean "extremely," those in positions second from either end mean "quite," those in the third position from the ends mean "slightly" and checks in the center mean "undecided" or "neutral."

"meaningless" should be scored as plus. There seems to be no immediate or simple explanation of this outcome. If it is desirable to establish "usual" scale polarity, more evidence must be gathered. Two such attempts have, in fact, already been made. First, a group of twelve speech instructors were asked to rate an imaginary "ideal speech," the

assumption being that polarity would be indicated by such ratings. Second, an audience of 31 speech students, about half of whom were graduate level, were asked to rate a speech which had been judged to be effective or good by the usual rhetorical criteria. Again the assumption was that such ratings would indicate scale polarity. The results of the three approaches are shown in Table 2.

where *d* is the algebraic difference between two scores on the same factor. Since each two consecutive scales (in the order listed above) represent a single factor, these scores may be tabulated as indicated in Table III.

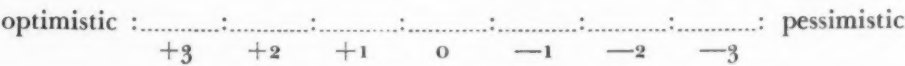
From the sums of the ratings of the two speeches it may be seen that the second speech rated higher than the first. If "higher" ratings mean "better" ratings, and it seems logical that they

TABLE II
DETERMINATIONS OF SCALE POLARITY

Scale End	Factor Analysis Indication (n = 100)	Speech Instructors (n = 12)	Student Audience (n = 31)
optimistic	plus	usually plus	plus
negative	minus	usually minus	minus
light	minus	usually minus	minus
serious	plus	usually plus	plus
honest	plus	always plus	plus
true	plus	always plus	plus
worthless	plus	always minus	minus
meaningless	plus	always minus	minus
calm	plus	mixed	minus
cold	plus	usually minus	minus

Until additional evidence has been gathered it would seem logical to score the scales as did the student audience above. The first scale (being positive at the left) would then be scored as follows:

might, then Speech 2 was better than Speech 1. All that can be said with certainty in the light of present knowledge is that Speech 2 was rated as a bit more optimistic, a bit more serious, equally as honest, of a bit higher value, and slightly



Suppose that a listener has been asked to rate two speeches. His ratings of the first speech on the differential are: 2, 2, 1, 1, 0, 2, 2, 2, 2, 0. His ratings of the second speech are: 3, 3, 2, 2, 0, 2, 3, 3, 2, 2. How are these ratings to be compared? Osgood offers the generalized distance formula¹¹ of solid geometry for this purpose

$$D = \sqrt{\sum d^2}$$
 (1)

more poised. If advantages along these dimensions combine to make a "better" speech, then the D difference (taking into consideration the standard error of the estimate) can be so interpreted.

The meaning of the speech as measured by the Speech Semantic Differential is that point in semantic space identified by its coordinates on the five factor dimensions. The D score for any two speeches is thus a measure of their proximity in semantic space. Hence D is an

¹¹ Osgood, p. 91.

TABLE III
METHOD OF SCORING THE SPEECH DIFFERENTIAL

Factor	Scale number	Rating of Speech 1	Rating of Speech 2	Factor Score Speech 1 (Sum of pairs)	Factor Score Speech 2 (Sum of pairs)	d	d ²
I	1.	2	3	4	6	-2	4
	2.	2	3				
II	3.	1	2	2	4	-2	4
	4.	1	2				
III	5.	0	0	2	2	0	0
	6.	2	2				
IV	7.	2	3	4	6	-2	4
	8.	2	3				
V	9.	2	2	2	4	-2	4
	10.	0	2				
Σ		14	22				

Applying formula (1) $D = \sqrt{16} = 4$

index representing the difference between two patterns of ratings. Much remains to be discovered concerning the implications of significant differences between pairs of factor scores or pairs of D scores. Research along these lines is presently under way at Indiana University.

A basic question is whether listener selection of scale categories is within the range of normal probability, a condition requisite to the application of any of the standard *t* score formulae for testing significance. Since the original data from which the Speech Semantic Differential was derived were already punched on IBM cards, it was a simple matter to run the deck through the Tabulator and get category frequency totals for the ten scales concerned. The resultant observed frequencies for positions one through seven respectively were as follows: 235, 466, 792, 2360, 1966, 2393, 1788. The theoretical frequencies with an *n* of 10,000 are: 156, 938, 2,343, 3,125, 2,343, 938, and 156. Theoretical frequencies were obtained by expanding the point

binominal $(p+q)^n$ with $p=q=1/2$. A χ^2 test indicates that these data are not normally distributed. The normal distribution hypothesis should not be rejected, however, until additional evidence gathered from judgments of a sizable number of actual speeches ranging along an effective-ineffective continuum has also been tested.

The limits of changes in D scores for significance for the Speech Semantic Differential must also be investigated. These limits as reported by Osgood¹² are, for individuals, a shift from 1.00 to 1.50 scale units in factor score and, for groups, a shift of as little as .50 units (five per cent level).

Data are now being collected for investigating the differences between ratings of the same speech by groups having different degrees of sophistication for speech (e.g. sophomores vs. graduate students), changes in the ratings of a speech by the same class at the beginning and at the end of a semester of work,

¹² *Ibid.* p. 328.

changes in the rating over a period of time of a speaker by the same audience, and others. Osgood has offered a substantial amount of data in support of the validity of various forms of the Semantic Differential, but this question also is one which should be explored by further research and by comparisons with other means of subjective and objective evaluation.

III

The Speech Semantic Differential should be applicable under the restrictions imposed by the developmental methodology to much of the macroscopic experimental research in speech. Further studies may turn up additional bases of judgment not factorable from the data obtained by use of the thirty scales and ten concepts selected for the present study.

An additional critical question, the one of reproducibility, remains to be answered. Replications of the present study, perhaps using other methods of rotating the centroid structure, are needed. Kaiser has commented upon the independence of the angle of rotation in varimax upon the number of tests in the cluster as follows: "This invariance property would seem to be of greater significance than the numerical tendencies of the normal varimax solution to define mathematically the doctrine of simple structure. Although factor analysis seems to have many purposes, fundamentally it is addressed to the following problem. Given an (infinite) domain

of psychological content, infer the internal structure of this domain on the basis of a sample of n tests drawn from the domain. The possibility of success in such inferences is obviously dependent upon the extent which a factor derived from a particular battery or sample of tests approximates the corresponding unobservable factor in the infinite domain. If a factor is invariant under changing samples of tests, i.e., shows factorial invariance [reference in the original omitted], there is evidence that inferences regarding domain factors are correct."¹³

Also, it will be important to determine if the speech semantic differential is sensitive to and hence usable in studies of attitude change. Osgood believes that factor I, his evaluative factor, is the one which reflects attitude shift. The present study, however, offers no evidence in support of this conclusion; this means that new studies must be designed and more evidence collected to determine which scales are appropriate for studies in persuasion.

The Speech Semantic Differential as it has been developed here, however, should be applicable to a variety of judgments of speaking performances. How freely the experimenter should add untested scales of his own is a moot question. The application of general scales to restricted frames of reference without adaptation to changes in the importance and relationships of the judgmental factors involved would be at best a doubtful procedure.

¹³ Kaiser, p. 195.

SEMANTIC DISTANCE BETWEEN STUDENTS AND TEACHERS AND ITS EFFECT UPON LEARNING*

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IT is generally believed that communication depends in part upon the meaning which the sender and the receiver hold in common for the symbols used and for the object or process which is the subject of the communication. Although it seems probable that no sender and receiver can ever hold exactly the same denotative and connotative meaning for any symbol or process, it is likely that unless the meaning held by the receiver has elements similar to those of the sender, and small or unimportant differences, the concept evoked will not be the one intended. Disparities in meanings held for concepts evoked by verbal symbols have been measured by means of the semantic differential and labeled, primarily by Osgood, *semantic distance*.¹ Attitudinal positions of groups have been appraised and the semantic distances between opposing groups determined by means of the semantic differential, e.g., labor and management groups.²

The meaning which an individual has for an object or a symbol is believed to

be related to the norms of his membership groups. Research has demonstrated that a group member who deviates from the norms of the group will be rejected, and that the process and degree of rejection depend in part upon the status of the deviant, the importance of the norms to the group, and the deviant's response to group pressures to conform.³ These pressures are essentially communicative in nature. Thus Festinger and Thibaut found that a preponderance of communications was turned upon the deviant.⁴ Bovard found that other members produced a convergence of judgments and pressures to conform, and that improved means of communication enabled the deviant to discover which norms he could safely reject.⁵ Asch found that a subject would shift his opinion to that of a majority on so objective a judgment as determining which of two lines was the longer, and that a majority of three was as effective as any larger number.⁶ Thorndike computed the probabilities of a deviant shifting

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¹ C. E. Osgood, George Suci, and Percy Tannenbaum, *The Measurement of Meaning* (Urbana: University of Illinois Press, 1957).

² C. H. Weaver, "The Quantification of the Frame of Reference in Labor-Management Communication," *J. Appl. Psychol.*, XLII (1958), 1-9.

³ H. Kelley and J. Thibaut, "Experimental Studies of Group Problem Solving and Process." In Gardner Lindzey, ed., *Handbook of Social Psychology* (Cambridge: Addison-Wesley, 1954), pp. 735-785.

⁴ L. Festinger and J. Thibaut, "Interpersonal Communication in Small Groups," *J. Abnorm. Soc. Psychol.*, XLVI (1951), 92-99.

⁵ E. W. Bovard, Jr., "Group Structure and Perception," *J. Abnorm. Soc. Psychol.*, XLVI (1951), 398-405.

⁶ S. E. Asch, "Effects of Group Pressure upon the Modification and Distortion of Judgments." In G. E. Swanson, T. M. Newcomb, & E. L. Hartley, eds. *Readings in Social Psychology*, 2nd ed. (New York: Holt, 1952), pp. 2-11.

to the majority under various conditions.⁷

The semantic distance between individuals and between groups is thought to be a barrier to communication, not only because the receiver may not understand the meaning of the sender but also because he may not accept it. Kelley and Volkhart found evidence to support this belief by presenting to Boy Scouts a communication counter to the group norms with regard to camping, woodcraft skills, and forest lore. They found that boys who had internalized the group norms best were least influenced by the communication.⁸

PURPOSE

This research was designed to measure semantic distances between two groups whose attitudinal positions in our culture might be expected to result in different and polar meanings for selected attitude objects; to relate differences in attitude to group memberships; and to quantify the effect of attitude upon the communicative process involved in the learning situation. The two groups were twelfth-grade students and their teachers in two public high schools.

Teachers spend a large part of their time attempting to communicate to their students the attitude that the student should study so earnestly that the major limiting factor in his achievement would be his native ability. Many methods of verbal and non-verbal communication are used, ranging from non-verbal approval or disapproval to severe punishment or great reward. Apparent-

ly, much of the classroom teacher's time is spent in this kind of persuasive communication, although the amount seems not to be known.

It would be difficult to judge what the attitude of students would be toward studying, and other aspects of the learning process, without this barrage of communications. It is well known, however, that even with it (or in spite of it) few students achieve as well as their native endowment would allow. Apparently, the receiver has not understood or has rejected the message.

PROCEDURE

A questionnaire was presented to 147 members of the twelfth grade in High School A. Students were asked to write statements of attitudes, standards, rules of conduct, fashions, fads, taboos, etc., which they believed their groups (cliques, gangs, close friends) held toward 12 aspects of the educative process, viz., teachers, high school, classroom, study hall, school rules, study, school spirit, textbook, sports, work, leisure time, and principal. The work was done anonymously. About 2300 statements (or norms) were written. Inspection caused the dropping from the study of the attitude-dimension of *principal*, since all norms were directed for or against the personality of the incumbent. Without much editing, the norms concerning the other eleven dimensions were presented to the faculty, who rated them on a seven-point scale. They were asked to judge whether each statement represented a good or a bad attitude and to indicate degrees of "goodness" or "badness." Ten complete lists were thus scaled with twenty teachers participating, each teacher scaling about half of the 2,100 items.

Inspection of these ratings suggested that on five dimensions either there was

⁷ R. L. Thorndike, "The Effect of Discussion upon the Correctness of Group Decisions, when the Factor of Majority Influence Is Accounted for." *J. Soc. Psychol.*, IX (1938), 343-362

⁸ H. H. Kelley and E. H. Volkhart, "The Resistance to Change of Group-Anchored Attitudes," *Amer. Sociol. Rev.*, XVII (1952), 453-465.

a troublesome degree of ambivalence or the data did not promise to be of aid in establishing significant differences. The following six attitude-objects were retained: teachers, classroom, study hall, study, high school, and school rules.

These six lists of student statements were presented to the students of the twelfth grade in High School A, who were asked to scale each statement on an agree-disagree continuum; i.e., whereas the statements were first written as norms of subgroups (as the students perceived their own subgroups), students were now asked to indicate their own personal attitudes.

From the 475 items on which the teachers polarized at least 1.5 scale intervals from the mean, 141 which showed the greatest scale differences between teachers and students were selected and presented to the twelfth-grade students of High School B. These students were asked to rate each item on a seven-point agree-disagree continuum. Six members of the faculty of High School B also rated the 141 items.

About 147 students marked the questionnaire in High School A and 290 in High School B. Students were also asked to write on the questionnaire the names of other people in their subgroups, cliques, gangs, close circles of friends. From these lists of names, subgroups within the twelfth grade were structured and the social attitude profiles for the groups as well as for individuals and total populations were constructed.

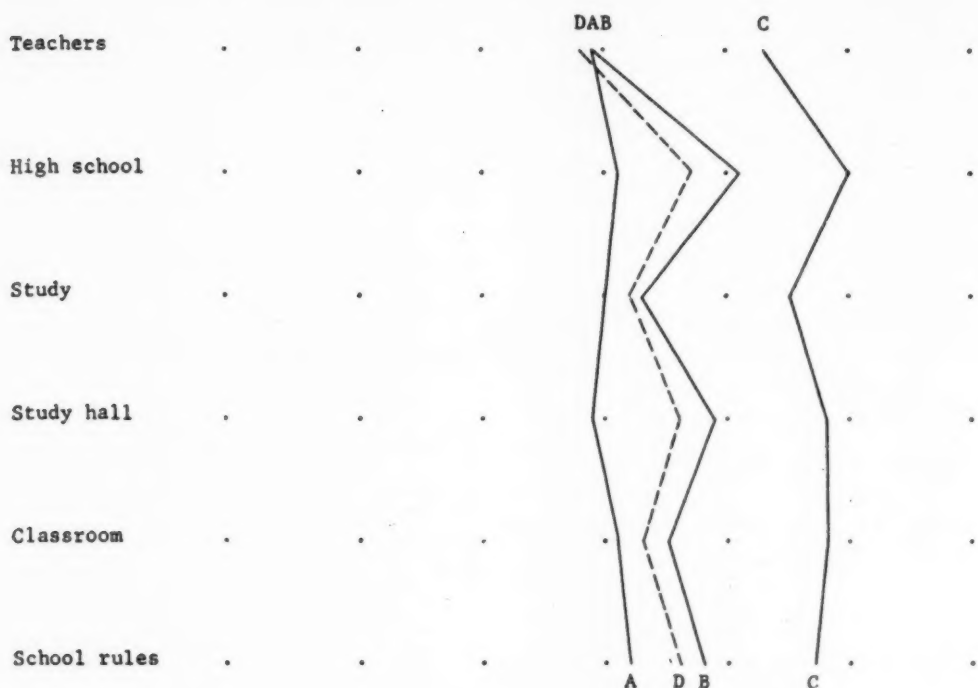
RESULTS

The ten items which showed the greatest scale distances between students and teachers on each of the six dimensions were selected from the questionnaire and a 60-item "test" constructed. Scale values were reversed for items which teachers rated on the low end of

the continuum so that a high scale value represented a "good" social attitude (i.e., teacher attitude) and a low score represented a "bad" social attitude. Because of the low N and because their scale values were not significantly different from each other (means = 5.55, 5.89) the two groups of teachers were combined, making an N of 16. The

TABLE I
THIRTY-SIX ITEM TEST

1. Classrooms are dull places.
2. I enjoy going to class.
3. A classroom is a place to put in your time.
4. When I am in class I think of what is going on tonight.
5. Classrooms are okay if you have friends there.
6. There is too much applepolishing in classrooms.
7. Rules make school seem like a prison.
8. We should always follow the rules with courtesy.
9. Some rules were practically made to be broken.
10. Some rules are stupid and unreasonable.
11. I don't think highly of having so many rules.
12. We should help make others obey the rules.
13. Teachers think they're martyrs.
14. Teachers often favor.
15. Some teachers are lazy.
16. Sometimes teachers' rules are just a little strict and stupid.
17. Some teachers are unreasonable.
18. Some teachers should be in the student's chair and the student should be teaching.
19. I enjoy school.
20. I think it's a privilege to attend high school.
21. I think high school is boring.
22. I study hard.
23. I think there are better things to do than going to school.
24. I like school closed.
25. I dislike studying.
26. Studying interferes with some of my other plans and activities.
27. There isn't any fun in studying.
28. I put study above most other things.
29. I think I should give up going places for studying.
30. Study is a bother.
31. Study hall is a place to see your friends.
32. I think I should be quiet in study hall so others can work.
33. Study hall is a place to talk over the happenings of the day.
34. There aren't enough privileges in study halls.
35. Study hall is our leisure time during the school day.
36. Study hall is boring most of the time.



A = Students, School A ($N = 147$, $M = 4.01$)
 B = Students, School B ($N = 290$, $M = 4.37$)
 C = Teachers, Schools A and B ($N = 16$, $M = 5.70$)
 D = Students, Schools A and B ($N = 437$, $M = 4.37$)

FIGURE 1. PROFILES OF TEACHERS AND OF TWELFTH-GRADE CLASSES IN TWO HIGH SCHOOLS.

mean scale value assigned these 60 items by these teachers was 5.76.

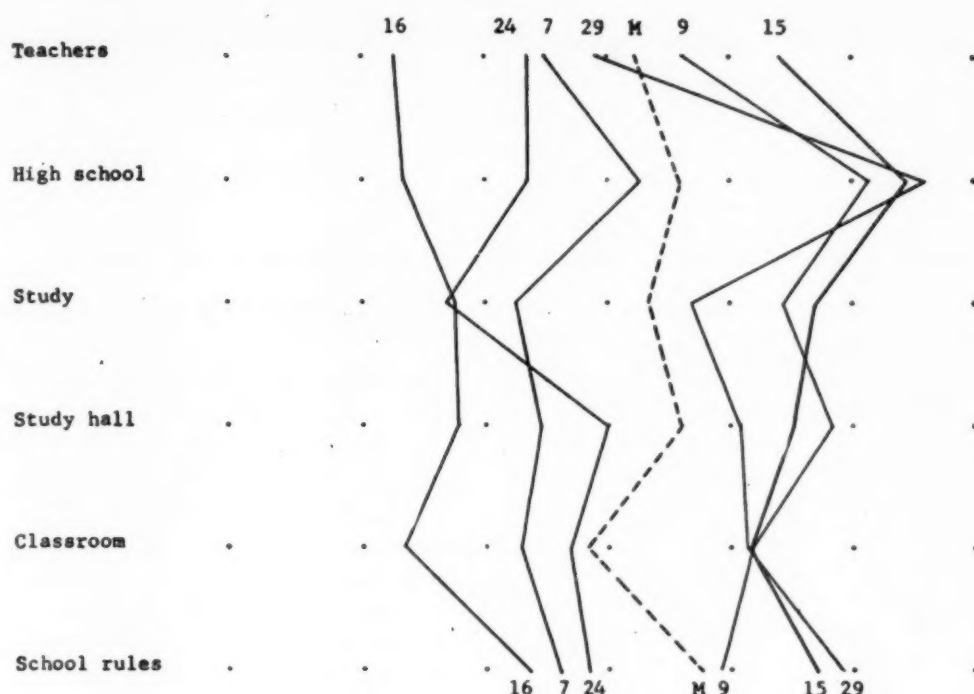
The mean student scale value assigned these items by the twelfth grade in School A was 4.19 and in School B, 4.84. The split-half product-moment coefficient of internal consistency for this test was .94. This test was made rigorous by splitting the ten items on each dimension according to the size of the semantic distance, thus reducing the equality of the items.⁹ The standard error of measurement was .33. This was not considered sensitive enough for administration to individuals, since the confidence

limits at the 5 per cent level were $\pm .66$ of a scale interval on the seven-point scale. Consequently, a shorter form of 36 items was formed by selecting six of the ten items from each dimension of the 60-item test. This form proved to have an internal consistency of .92 and a standard error of .06 of one scale interval, with confidence limits of .12 of one scale interval at the 5 per cent level. Since these statistics suggested high enough reliability and sensitivity for individual measurement, further computations were made on these data.¹⁰ The 36 items are listed in Table I.

Profiles were constructed for the

⁹ H. E. Garrett, *Statistics in Psychology and Education* (New York: Longmans, Green, 1947), pp. 382-386.

¹⁰ *Ibid.*, p. 387.



The dotted line is the mean profile of the 290 Twelfth-grade students from School B.

FIGURE 2. PROFILES OF SIX STUDENT SUBGROUPS FROM SCHOOL B.

teachers and for the twelfth grade students in the two schools. They may be seen in Fig. 1. The significance of the differences between the student profiles and the teacher profile was computed by the rank-difference method derived by Festinger.¹¹ The value for d was 3.00 in each case, significant well beyond the .1 per cent level of confidence.

Twenty-nine membership groups were constructed for twelfth-grade students in High School B. Scale values were averaged for each of the six dimensions for each group and group profiles constructed. In Fig. 2 are the profiles of the three groups with the lowest mean scores and the three groups with the highest mean scores, along with the mean for

the entire class ($N = 290$). The three lowest groups were significantly different from the teacher profile well beyond the one per cent level of confidence. The three highest groups were not. The other twenty-three student subgroup profiles were clustered between these extreme groups, producing the mean student profile indicated in this figure and as School B in Fig. 1.

An intraclass correlation matrix was constructed for the six subgroups whose profiles are shown in Fig. 2. The scores were uncoded, thus allowing the coefficient to reflect pattern, level, and scatter, in this case a more meaningful statistic than the product-moment correlation which ignores level (inequality of the means) and removes scatter by transforming the scores into z scores,

¹¹ L. Festinger, "The Significance of Differences Between Means Without Reference to the Frequency Distribution Function," *Psychom.*, XI (1946), 97-105.

TABLE II
INTRACLASST CORRELATION MATRIX OF THREE HIGH-SCORING AND THREE LOW-SCORING GROUPS

Group	N	High Score Groups			Low Score Groups		
		9	15	29	24	7	16
9	5	—	.96	.99	.13	.08	— .29
15	2		—	.96	— .16	— .25	— .51
29	2			—	.50	.50	.12
24	2				—	.99	.64
7	7					—	.50
16	2						—

thus reflecting only pattern.¹² Coefficients from this matrix are arranged in Table II to show the wide range in relationships between similar and different pairs of these subgroups. It can be seen in this table that as the profile of a group is compared with profiles of groups farther and farther away on the scale the size of the intraclass coefficient decreases. This tendency is, of course, modified by similarity or dissimilarity in pattern and scatter.

The intraclass correlation technique was used to evaluate the relationship between the profile of a subgroup member and the profile of another group. Such profiles may be seen in Fig. 3. Two quite different groups were selected for this figure, each with two members. The correlation matrix beneath the figure shows the relation between each student's attitude and the attitude of his own and another group which placed itself at a level on the scale some distance from his own.

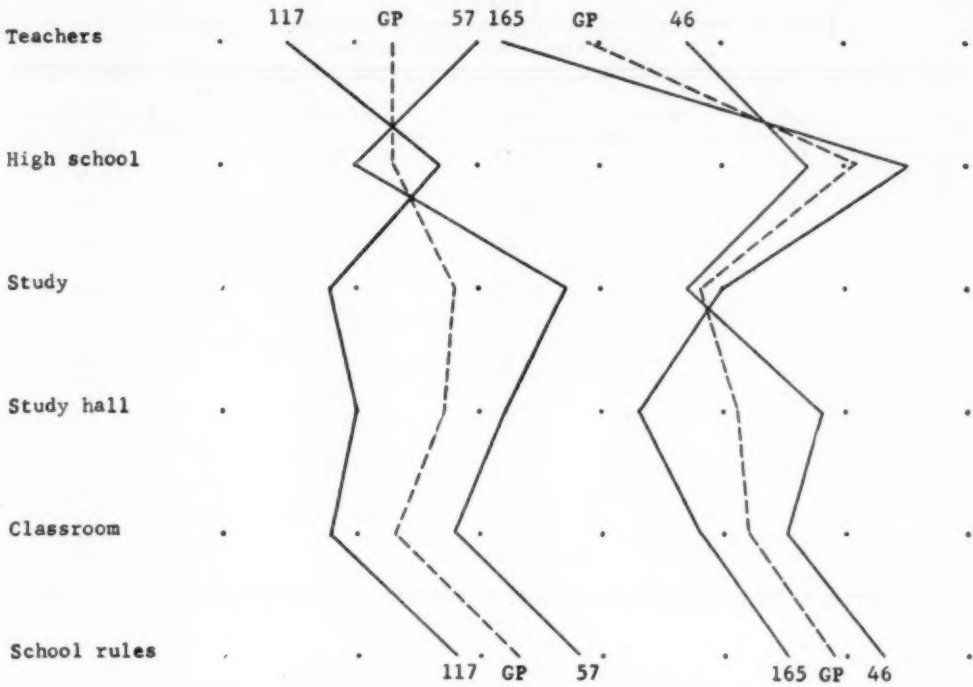
These statistical demonstrations of the relationships among and within the subgroups support the widely accepted principle that an individual becomes and remains a member of a group whose norms are similar to his own. They suggest some validity for this 36-item test also, since the norms being measured are apparently related to the group

membership identified by the student himself.

One of the purposes of this research was to measure the effect of the group-related semantic distances upon the communicative processes in the learning situation. It seemed likely that if semantic distance between student and teacher should be a barrier to the kind of communication described above, achievement would be inhibited. Thus a negative relationship might exist between semantic distance between teacher and student on the scales used and grades received by the student. This would suggest that the correlation coefficient between the attitude test score and grades received by the student would be significantly different from chance, and the attitude test score would have some value as a predictor of academic achievement.

Accordingly, intelligence quotients (Otis) and achievement scores were obtained for 269 of the students from School B. The achievement scores were percentages carried to two decimals and represented grades received during the first three and one-half years of high school in all subjects taken. Computation produced the following correlation coefficients: intelligence with achievement, .72; intelligence with social score, .18; and social score with achievement, .29. All of these coefficients are significantly different from chance be-

¹² E. A. Haggard, et al., "Intraclass Correlation vs. Factor Analytic Techniques for Determining Groups of Profiles," *Psychol. Bull.*, LVI (1959), 48-57.



INTRACLAS CORRELATION COEFFICIENTS

Student Number	Group 29 Profile	Group 16 Profile
46	.99	-.22
165	.99	.39
57	.41	.92
117	-.01	.87

FIGURE 3. PROFILES OF TWO MEMBERSHIP GROUPS OF TWELFTH GRADE STUDENTS IN HIGH SCHOOL B.

yond the 1 per cent level of confidence.¹³ When partial correlation coefficients were computed from this matrix, the correlation between social score and achievement fell from .29 to .24. This was unexpected. It was believed that with intelligence held constant the effect of social attitude upon achievement would increase. A discussion by Garrett of this phenomenon suggests that it may have occurred because both social score and achievement depend directly upon intelligence, as is indicated by the sig-

nificant correlation coefficients cited above.¹⁴ The correlation of intelligence with achievement when the social score was held constant was .71, and the correlation of intelligence with social score when achievement was held constant fell to .15.

The suggestion in these data that the social attitude had some positive relation with achievement was further tested by computing the regression coefficients of intelligence and social score upon

¹³ Garrett, *op. cit.*, p. 299.

¹⁴ *Ibid.*, p. 452.

TABLE III
 ERRORS IN PREDICTION OF ACHIEVEMENT SCORES OF INDIVIDUAL STUDENTS
 USING ONE AND TWO PREDICTORS

S	I.Q.	Social Score	Achievement	One Predictor	Error	Two Predictors
29.	111	2.14	85.50	6.59		2.49
52.	134	5.00	96.74	32.41		3.09
266.	94	3.82	75.51	10.81		4.14
294.	100	2.84	80.89	6.00		.51
6.	126	5.20	92.66	24.79		1.30
4.	104	5.83	83.46	24.44		1.72
16.	97	4.00	81.00	11.47		.09
11.	107	5.28	86.82	2.83		1.55
19.	82	2.56	75.39	30.03		.95
33.	136	3.50	97.06	35.31		4.49
36.	87	4.69	78.96	25.54		.38
27.	117	4.55	95.93	5.82		8.07
44.	74	4.25	74.73	42.26		.77
68.	105	3.92	83.23	.81		.09
72.	110	5.75	82.10	8.38		5.00
67.	106	5.23	84.71	.68		.50
91.	137	5.47	95.96	39.02		.82
96.	138	5.08	90.11	45.48		4.99
140.	103	3.92	80.82	1.62		1.86
156.	108	3.53	81.30	5.95		1.49
Mean Error: 18.01						2.22

achievement and constructing a regression equation:

$$Z_{\text{est}} = (.3147) X + (1.2081) Y + 45.54,$$

in which Z = achievement, X = intelligence, and Y = social score.

It should be noted that the social score was weighted almost four times as heavily as intelligence; i.e., 79 per cent of the predictive value of the equation came from the intelligence quotient and the remainder (21 per cent) from the social score. In order to test this data, a regression equation was constructed to predict achievement from intelligence alone:

$$Z_{\text{est}} = (1.6112) X,$$

in order to determine the differences between predictions made with and without the social attitude score.

Errors made in such predictions for 20 subjects are listed in Table III, along with intelligence quotients, attitude scores, and grades actually received during the first three and one-half years of

high school. The subjects used for this table were selected to present a wide range and varied combinations of attitudes, intelligence, and grades. It can be said that the use of the attitude score in the equation added materially to the accuracy of the prediction. In only one case was the prediction made by intelligence alone as accurate as the prediction made when the social attitude score was used in the regression equation. In most cases it was far from the grades received.

The mean error when intelligence alone was used to predict achievement was, for these 20 subjects, 18.01 percentage points. When attitude score was added to the regression equation, the mean error for the same subjects was 2.22 points.

These data suggest that the semantic distance between teacher and student on the six dimensions of the communicative situation measured here has some real effect upon communicative behavior. It is surely a sound inference

that the meaning of aspects of the learning situation has a causal relationship with the reception of the teacher-communications, be they informative or persuasive.¹⁵

It should be noted that the regression equation is presented here merely to quantify this relationship. The standard error of estimate for the equation using two predictors is about four percentage points. This means that in two of three predictions the error will probably not be greater than 4. It also means that at the 5 per cent level of confidence the confidence limits are ± 8 , and at the one per cent level, ± 11 . Thus, if high confidence level is desired, the limits are so wide as to restrict seriously the use of the prediction.

It should be noted again that the achievement scores used here were received over a long period of time. Had grades been available for the single semester during which this study was made, the original correlation of social attitude might have been higher and the later computations more sensitive.

¹⁵ *Ibid.*, pp. 452-453.

CONCLUSIONS

From these data the following inferences seem to be justified:

1. There were significant and real semantic differences between teachers and twelfth-grade students in the two schools studied;

2. The meaning of six selected aspects of the educative process was positively related to membership in friendship groups, and some groups were significantly different from other groups;

3. The influence of attitude upon learning in the population studied was about one-fourth that of intelligence. The semantic distance seemed to be a semantic barrier. It correlated significantly with achievement and influenced significantly the accuracy of prediction.

SUMMARY

Semantic distances were measured between 290 twelfth-grade students and their teachers. The student attitudes toward selected aspects of the educative process were found to be significantly related to students' membership groups, and influenced student learning behavior about one-fourth as much as intelligence.

COLORIMETRIC MEASUREMENT OF ANXIETY: A CLINICAL AND EXPERIMENTAL PROCEDURE*

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A PROCEDURE which could measure objectively certain aspects of anticipatory and ongoing anxiety would have utility not only for the verification of theoretically functional relationships but also would have important implications relative to: (1) diagnosis of speech associated anxiety (in that possible covert apprehension could be ascertained and observable signs of anxiety could be independently verified); (2) prognosis (to the degree that such prediction would be dependent on anxiety and its spread of effect); (3) therapy (especially indicated emphasis on mental hygiene or psycho-therapy); and (4) measurement of clinical improvement (as it may vary with anxiety states). Indeed, behavioral scientists have been concerned generally with the search for an objective measure of anxiety both as a means of evaluating situational affective loading and of differentiating anxiety levels among individuals and among populations.

RATIONALE

A succinct rationale for the study of anxiety was provided by a complex of findings^{1,2} which revealed that anxious sweating differed from thermal sweating in: (1) location of the governing center; (2) gland type; (3) response latency; (4) reactivity to temperature; (5) nature of accumulation; (6) variation

with stimulus intensity; and (7) response localization. The most important discovery, however, was that sensory stimuli indicative of anticipatory apprehension provoked palmar finger tip sweating without affecting a change in general bodily sweating.

The existence of these differences in the antecedents and localization of sweating indicate that palmar sweating might be useful as a measure of anxiety. But many physiological processes heralded as objective indicators of affectivity have been discredited because the widespread physiological response to cue-produced anxiety is likely to result in a homeostatic imbalance which is counteracted by some compensatory process. The palmar sweat response, however, occurs over such a small area that a counteracting safety process which would result in homeostasis need not be assumed.³ Indeed, palmar sweating may well reflect the safety mechanism of preparedness.

Colorimetric Measurement of Anxiety.

As a specific means of determining the presence of anxiety, Silverman and Powell^{4,5} introduced a colorimetric procedure which combined the advantages of an easily obtained permanent sweat record, as found in the Aubert⁶

³ O. H. Mowrer, *Psychotherapy, Theory and Research*. (New York: Ronald Press, 1953).

⁴ J. J. Silverman and V. E. Powell, "Studies on palmar sweating." *Psych. Som. Med.*, VI, (1944), 243-249.

⁵ J. J. Silverman and V. E. Powell, "Studies on palmar sweating: 1. A technique for the study of palmar sweating." (*Am. J. of Med. Sci.*, CCVIII, (1944), 297-299.

⁶ H. Aubert, "Unters. über die Menge der durch die Haut des Menschen ausgeschiedenen Kohlensäure." *Pflügers Arch.*, VI (1906), 453.

*Based upon Ph.D. dissertation, University of Illinois, 1957, directed by Severina E. Nelson.

¹ Y. Kuno, *Human Perspiration* (Springfield: Charles C Thomas, 1956).

² Y. Kuno, *The Physiology of Human Perspiration*. (London: J. and J. Churchill Ltd., 1934).

and Eijkmann⁷ techniques, with a scaling classification similar to that of Minor.⁸ The Silverman and Powell procedure involved the painting of the index, middle, and ring finger tips with an alcoholic tincture of readily soluble ferric chloride which, when dry and held in contact with tannic acid treated mimeograph paper, produced ink fingerprints whose darkness depended upon the degree of sweating. The darkness of the combined prints was judged on a four point scale representing faint to intense sweating.

Validity of Colorimetric Measurement of Anxiety. In a study designed to validate their method, Silverman and Powell⁹ investigated the palmar sweat prints of three experimental groups (totaling 1360 patients, the majority of whom, on hospital admission, had a diagnosis of psychoneurosis) and one control group (totaling 71 ward attendants, nurses, and doctors) selected from an army hospital. The combined experimental groups showed strong or intense sweating in 82% of the cases and faint or moderate sweating in 18% of the cases. On the other hand, the control group showed strong or intense sweating in 22% of the cases and faint or moderate sweating in 78% of the cases. This inversion, in direction relative to the sweating of the experimental groups, suggested that the experimental subjects responded to the testing situation in a manner that was typical of the diagnosis. Furthermore, those patients who were diagnosed as psychoneurotic, anxiety type, responded with intense palmar sweating. The conclusion was

reached therefore that "the palmar sweat response may be considered one of the important indices of the emotions."¹⁰

Gladstone¹¹ used the colorimetric technique as a means of determining differential group emotionality in varying affective situations. To this end, fingerprints obtained in six school situations considered to be more affectively loaded were compared with prints taken in four situations judged to be less affectively loaded. A comparison between the mean palmar sweating in situations presumed to have differential affective stimulus values revealed a general trend supporting the expected tendency. Davis,¹² in an experiment similar to Gladstone's, used a population of college students and found that significantly more subjects responded with intense palmar sweating during the stress of an examination than during non-stress periods.

Further verification of the utility of colorimetric palmar sweat prints as a measure of situational stress was provided by Bixenstine¹³ who reported the results of palmar prints taken from a married couple during the normal course of everyday life. On the basis of his results, the author concluded that the measurement of palmar sweating was capable of giving a "very meaningful and suggestive picture of a person's ongoing experience."¹⁴

Recent Refinements of the Colorimetric Technique. Despite the success of colorimetric palmar sweat measurement

¹⁰ *Ibid.*

¹¹ R. Gladstone, "An investigation of the relationship between palmar sweating and emotion as measured by a group test of palmar sweating." Ph.D. Dissertation (University of Illinois, 1949).

¹² R. H. Davis, "A further study of the effect of stress on palmar prints." *J. of Ab. and Soc. Psych.*, LV, (1957), 132.

¹³ V. E. Bixenstine, "A case study of the use of palmar sweating as a measure of psychological tension." *J. of Ab. and Soc. Psych.*, L, (1955), 138-143.

¹⁴ *Ibid.*

⁷ C. Eijkmann, "Some questions concerning the influence of tropical climate on man." *Lancet*, CCVI (1924), 887.

⁸ V. Minor, "Ein neues Verfahren zu der klinischen Untersuchung der Schweissabsonderung." *Z. ges. Neur. Psychiat.*, XLVII (1927), 800.

⁹ Silverman and Powell, *Psych. Som. Med.*, *supra*.

as an index of anxiety, increased utility necessitated greater sensitivity through the recognition of more minute differences than could be assessed by means of the Silverman and Powell four point scale. Consequently, Gladstone¹⁵ modified their procedure in three ways. First, he introduced a light source whose intensity was impeded by a palmar sweat fingerprint of a particular density. The amount of light passing through the fingerprint and paper was picked up by a photocell, placed directly below the small light source opening, which activated the current flow across a microammeter. Second, he discarded mimeograph paper in favor of paper having more nearly constant light transmission characteristics. Third, Gladstone stabilized the fingerprint solution by the substitution of anhydrous ferric chloride and reagent grade acetone, a quick drying solvent, mixed in the proportion of 13g FeCl₃ to 400 cc acetone for the alcoholic diluted ferric chloride solution.

Light¹⁶ further modified certain components of the colorimetric technique: (1) Gladstone's anhydrous ferric chloride and acetone solution was given additional stability by the inclusion of three drops of hydrochloric acid; (2) the darkening of tannic acid treated paper with age was controlled by aging it for a constant period and by measuring sweat fingerprints relative to the clear portion of the acid bearing paper; (3) finger to paper pressure was held relatively constant by the use of a scale as a self-correcting regulator.

PROCEDURE

Present Experimental Modification of the Colorimetric Technique. To secure greater reliability and range of measure-

ment, modifications were introduced in the present study to reduce the variable errors resulting from fingerprint smudging, finger pressure and size, paper translucency, and the darkening of the fingerprint paper with age. The following improvements in fingerprinting, apparatus, calibration, and measurement should provide a clinical and experimental procedure which can be used to advantage:

Fingerprinting.

1. Interpretation difficulties inherent in smudged prints and variation due to intra- and inter-individual differences in fingerprint size and pressure have been greatly reduced by the development of a spring activated fingerprinter, which holds both the finger and tannic acid agent under separate plates of constant pressure. The fingerprinter contains a fixed middle plate in the center of which is a bore, 1.5 cm in diameter. Because of the dimension of the opening in the center plate and the spring tension on both the upper and lower plates, prints are of like size for all subjects and are taken under equal pressure. In addition, smudging is greatly reduced since the finger tip is inactivated in the sense that no voluntary pressure or steadiness is required.

2. Formerly, the source of greatest error in the measurement of palmar sweating has been attributed to the inconsistency of the paper as a translucent carrying agent of the fingerprint. This variable error is reduced by the use of Ortho-X film which is washed in sodium thiyosulphate in order to remove the silver nitrate. The film sheets are then soaked in water in order to remove the cleaning solution and dried. This procedure results in clear film which contains a uniform emulsion on one side. When the dried film is immersed in a five per cent solution of

¹⁵ Gladstone, *op. cit.*

¹⁶ B. H. Light, "Tension changes in patients undergoing psychotherapy." Ph.D. Dissertation, (University of Illinois, 1951).

tannic acid the emulsion absorbs the solution until it is saturated. The consistency of the film is noted by the fact that, if it is not discarded because of visually observed imperfections, it shows no more than a tenth of a milliamperere deflection when moved across the photocell aperture.

3. The film containing tannic acid does not darken with age over a six-month period as evidenced both by a comparison with newly made film and by repeated measurement of a calibration fingerprint.

4. The impurities which develop in the tannic acid solution because of the almost immediate growth of molds have been eliminated by the addition of .1 per cent thymol as an active disinfectant.

5. The obtained palmar fingerprints are measured for intensity of sweating in a darkroom in order to avoid the variable error of light differences.

Because of the enumerated improvements, it was possible to increase the scale range from zero to 25 microamperes to a scale range of zero to ten milliamperes.

Apparatus.

There are two separate circuits involved in the apparatus, namely: (1) the circuit beginning at the wall plug entrance and continuing through the Sola constant voltage transformer to the Superior variable transformer which leads into the light source for the photocell; (2) the direct current battery which is the voltage source for the photocell. The signal from the photocell is applied to a direct current amplifier whose milliammeter is not activated until the foot switch is depressed.

Calibration and Measurement.

Calibration check points were instituted at the alternating current voltage

output to the light source, at the output poles of the battery and at the plastic connector as light impinged on the open photocell. The direct current amplifier was calibrated with all the instruments connected by adjusting the milliamperere reading to zero on the non-fingerprint area of the calibration film. The darkest area of the fingerprint, as represented by the greatest unit deflection from zero, was found. If the combined instrumentation was in perfect working order, the calibrated fingerprint slide gave a consistent reading.

Following the completion of the initial calibration period, the clear portion of the film slides adjacent to the experimental prints was placed over the opening of the photocell and the foot switch was pressed to close the circuit. The range of volts was set at 0.5 and the reading was adjusted until the meter read zero. Then the fingerprint was moved across the photocell opening until the greatest scale deflection was achieved. If the print was so dark as to cause a deflection greater than this scale could measure the 1.0 range of volts scale was entered.

Between-Finger Reliability of Palmar Sweating. The use of palmar sweating as an indicator of anxiety, for instance in the investigation of stuttering and expectancy adaptation,¹⁷ requires repeated measurement of palmar sweating during relatively adjacent temporal intervals. Previous palmar sweat procedures, however, involved coinciding measurement of three finger tips of the same hand as a means of obtaining a composite score which would minimize variable errors. The limitation of three finger measurement was foreseen by

¹⁷ E. J. Brutton, "A colorimetric anxiety measure of stuttering and expectancy adaptation." Ph.D. Dissertation (University of Illinois, 1957).

Mowrer¹⁸ who concluded that prints from one finger rather than from three would simplify computations and would offer a better control over variance in the paper's natural translucency. Nevertheless, in order to modify the three finger procedure, it would be necessary to show that finger tip sweating was significantly similar and that the palmar response to one stimulus situation did not confound the measurable response to a following stimulus situation.

Despite the fact that Kuno's experimental findings led him to conclude that "though there were some differences in amount, the features of sweating on one palm closely paralleled that of the other,"¹⁹ there has been no colorimetric investigation relative to the consistency of palmar finger tip sweating. Consequently, in the present modification, two fingerprinters of the same dimensions and spring strength were constructed in order to obtain palmar sweat prints from first the right and left index fingers and then the right and left middle fingers of 27 subjects.

Prior to the simultaneous release of the finger spring locks, the middle whorl of the right and left index fingers were centered below the hole in the fixed middle plate. The upper plates were held away from contact with the painted finger tips. Then the slides, with the emulsion side face down, were inserted into the opening between the upper plate and the fleshy portion of the finger tip. On a signal, both upper plates were locked in place. After a timed two-minute period, the top plates were opened simultaneously and the film slides removed. After a two-minute rest period sweat fingerprints were obtained from the right and left middle fingers.

RESULTS

A correlational (product-moment) matrix was instituted to determine the sweat agreement between the middle and index fingers on the right and left side of the body, on the same side, and on different fingers on different sides. The data have been summarized in Table 1.

The standard deviation of the differences between palmar sweat measures of the right and left index and middle fingers was 1.01 and 1.13 milliamperes respectively; for the right index and middle fingers, it was 1.02 and for the left index and middle fingers, 1.58; for the right index and left middle and right middle and left index, it was 1.61 and 1.17 milliamperes.

Further statistical analysis was necessary to determine whether one finger, a combination of fingers or one side showed significantly more sweating. This consideration was analyzed by means of Friedman's non-parametric analysis of variance by ranks.²⁰ The sums of the ranks for the right index, left index, right middle, and left middle were respectively 67.5, 67.5, 70.5, and 64.5. With an X^2 value of 7.82 needed for a significant difference among the columns, the obtained difference of .4 was non-significant.

The data indicate therefore that it is feasible to use each of these finger tips, individually, for the measurement of palmar sweat anxiety in experimentation requiring repeated measurement at short intervals in time. Nevertheless, randomization of finger tip presentation is warranted as an extra precaution.

The possibility of palmar sweat carry-over from one stimulus situation to the

¹⁸ Mowrer, *op. cit.*

¹⁹ Kuno, *Human Perspiration*.

²⁰ Sidney Siegel *Nonparametric Statistics for the Behavioral Sciences* (New York: McGraw-Hill, 1956), pp. 166-173.

next is eliminated as a confounding factor because of the inclusion of quick drying acetone in the salt solution used to paint the finger tips. Furthermore, Kuno²¹ has shown experimentally that palmar sweating declines rapidly following the cessation of stimulation. As a safeguard, however, a four-to five-minute cooling off period should be instituted between each palmar print session.

SUMMARY

Behaviorial scientists have been concerned generally with the search for an objective measure of anxiety. This search was given impetus by a complex of findings which revealed that anxious sweating differed from thermal sweating in: (1) location of the governing center; (2) gland type; (3) response latency; (4) reactivity to temperature; (5) nature of accumulation; (6) variation with stimulus intensity; and (7) response localization. The most important discovery, however, was that sensory stimuli indicative of possible danger provoked finger tip sweating without affecting a change in general bodily sweating. The distinct difference in the antecedent to and the localization of anxious sweating instigated the development of a discrete and objective index.

²¹ Kuno, *The Physiology of Human Perspiration*.

Procedurally, this measure was based upon the chemical reaction which obtained when perspiration soluble anhydrous ferric chloride, applied to the palmar side of the finger tips, was brought into contact with a tannic acid bearing agent. Since the iron salt-tannic acid interaction produced an ink fingerprint which was a dependent function of the extent of finger tip perspiration the resulting darkness of the print was considered indicative of the degree of anxiety.

Initially, palmar sweat prints had been evaluated colorimetrically on a four-point scale of darkness representing faint to intense sweating. Though this means of distinguishing anxiety has been shown to have validity, refinements introduced in the present study have been added to some previous modifications as a means of increasing the reliability and utility of palmar sweat anxiety measurements. The present refinements in chemical stability, fingerprinting methodology, apparatus, calibration, and range of measurement appear to meet the needs for a more sensitive independent measure which can ascertain situational affective loading, differentiate anxiety levels among populations, and can indicate the role of anxiety in certain diagnostic, prognostic and therapeutic judgments.

TABLE I
RELIABILITY OF PALMAR SWEATING BETWEEN FINGERS AS MEASURED BY
COEFFICIENTS OF CORRELATIONS.

	Right Middle	Left Index	Left Middle
Right Index	.94	.92	.89
Right Middle		.90	.93
Left Index			.87

STUDIES IN LISTENING COMPREHENSION

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STUDIES at the University of Minnesota indicate that listening can be taught.¹ But articles and texts suggest that our teaching methods, if not crude, are at least not refined. The usual approach is a composite of advice-giving, outlining, and testing. The studies explained here were motivated by the assumption that listening involves a number of sub-skills and attitudes, that if we can find the more important factors involved in listening comprehension we can refine our technique in the teaching of listening. With this kind of thinking in the background, three questions presented themselves:

1. How important is the anticipatory set in listening?
2. How important is theoretical interest in listening?
3. How important is word association in listening?

It is in no way suggested that these are the only, or even the three most significant questions in listening analysis. They are three questions that aroused the curiosity of the writer.

I

A STUDY OF THE ROLE OF ANTICIPATORY SET IN LISTENING

Theories of motivation are based on the assumption that human behavior is goal-oriented. A goal or purpose is achieved by a flow of messages that tell about progress in attaining the goal. If

the task is done consciously, we progress as we keep checking what we are doing against what we expect to achieve.

The experimenter gave a number of preliminary listening tests to students. He noted that students remember a number of details with relative ease, especially if they are permitted to take notes. They are relatively ineffective in inferring, interpreting, and applying. In other words, students recall better than they understand. They get feedback; but they tend not to recognize their objective when they come upon it, for they do not imagine and anticipate the nature of the thing they are looking for.

Or to put the problem in a different way, pilot studies (as well as a number of studies in reading) suggested that good listening may require the ability to hypothesize, the ability to say to oneself as he listens, "I imagine that what the speaker is trying to say is . . .". This anticipating and comparing of expectation with outcome may cause the listener to pay attention in order to see if he is right. The main purpose of this study, then, was to test the hypothesis that the anticipatory set is an important factor in listening.

PROCEDURE

Both forms of the Princeton Educational Testing Service's listening test were given to students. The excerpts of form IA were prefaced by a statement of the purpose of the selection and the listening time. Time is an important part of the anticipatory set, particularly in a test where the time fluctuates radi-

¹ James I. Brown, "How Teachable is Listening?" *Educational Research Bulletin*, XXXIII (April 14, 1954), 85-93.

cally, varying from 25 seconds to four minutes and 30 seconds. A typical prefatory comment was:

Here is the fourth selection. It is a speech about the difference between liberty and freedom. Liberty and freedom are abstract ideas, but they are discussed here in clear concrete language. In the main, the questions at the end will test your memory. The reading time is four minutes.²

Or another:

Here is the eighth selection. It is a conversation between two characters in a novel, a student and a professor. The reading time is one minute and 45 seconds.

The experimenter decided what was needed to give a good listening set. The first sample above was the longest remark and the second one the shortest.

The excerpts of form IB were not prefaced by such comments, and those in the test form were deleted. The experimenter was testing, then, the impact of the prefatory comments.

For those who are not acquainted with the Princeton test, it should be said that the test is composed of a series of excerpts from what might be college lectures, with multiple choice questions following each excerpt. The questions involve a mixture of recall, interpretation, inference, and application. It takes about 90 minutes to administer each form, so that two class periods are required to give one form, four periods for the two forms.

The test material was recorded on tape by a senior student at Western Michigan University who has had several speech courses and who has worked part time as an announcer at a local radio station. The diction of the final recording was clear, the interpretation defensible, and the performance even.

² The statements are slight modifications and expansions of the introductory remarks used in the test.

In the testing situation, the experimenter played the recording and personally read both the prefatory comments and the test questions. Since he wanted to test the impact of the goal-setting comments, he felt that reading them in person gave them a special significance that they might not have if they were a part of the recorded material.

The subjects were freshman students of two communication classes of the fall semester, 1957-58, at Western Michigan University. In one class form IA was given first; in the other class form IB was given first. There were 51 students in the two classes, 26 in one and 25 in the other. Absenteeisms on any one of the four days eliminated the use of that student. In the end, the experimenter had the tests of 41 students to analyze, 21 in one class and 20 in the other.

A second purpose of the first study was to see if experimentation would suggest any relation between the role of anticipation and one's attitude toward himself as a listener. The students who were used for the preceding part of the study were also given the *Communicant Attitude Scale*, an unpublished questionnaire of 70 items.³ As the title suggests, the purpose of the scale is to measure the student's evaluation of himself as a listener.

ANALYSIS

Thirty-three of the 41 students made higher scores in the test in which the excerpts were prefaced by comments. Two made the same score in both tests. Six made lower scores in the test prefaced by purpose statements. The aver-

³ The test was designed by Laura Crowell, Allan Katcher, and S. Frank Miyamoto, and was used in the study "Self Concepts of Communication Skill," *Speech Monographs*, XX (March, 1955), 20-24.

age difference in the test scores of those who improved was 6.81. Eighteen did from six to sixteen points better. The average difference of the test scores of those who did worse in the test prefaced by comments was 3.17. One student of this group did six points worse, the rest from one to four points worse. The mean difference between the scores of the test prefaced by introductory remarks and the scores of the test where the remarks were deleted was 5.18. Table I concerns the statistical credibility of the observed difference. The *t*-value indicates that the observed difference of the mean scores of the two test situations is statistically significant at the one per cent level.

TABLE I
SCORES ON TEST WITH PREFATORY REMARKS
COMPARED WITH SCORES ON TEST WITHOUT
PREFATORY REMARKS

	M	σd	<i>t</i>
Test with Prefatory Remarks	48.48	5.25	6.22
Test without Prefatory Remarks	43.30		

The question arises as to whether poor listeners, within the population tested, benefit more from anticipatory remarks than do good listeners. The improvement scores of students in the lowest quartile, as differentiated by the test without remarks, were compared with those in the upper quartile. The difference in the test scores of students in the two groups was almost the same, and the difference was not statistically significant. Table II gives the data for this analysis.

TABLE II
DIFFERENCE OF SCORES IN THE TWO TESTING
SITUATIONS FOR THE UPPER AND LOWER
QUARTILES COMPARED (N,20)

	Md	σd	<i>t</i>
Q ₁	5.8	6.14	.44
Q ₃	4.6	5.25	

As indicated earlier, a second purpose of this study was to see what relations exist between anticipation or prediction in listening and one's attitude toward himself as a listener. The scores of the listening test with the introductory comments and the scores of the communicant scale were compared. Table III shows the results. The correlation is non-significant.

TABLE III
SCORES ON TEST WITH PREFATORY REMARKS
COMPARED WITH SCORES ON
COMMUNICANT SCALE

N	r	<i>t</i>
44	.26	1.80

One might suspect that the best listeners conceive of themselves as better listeners than poor listeners conceive of themselves. The communicant scores of the ten best listeners were compared with the scores of the ten poorest listeners, as differentiated by the listening test with the prefatory comments. The difference was negligible. The average scores of the two groups were 96 and 97, with the poorest listeners evaluating themselves better than the best listeners evaluated themselves. The range of scores was from 78 to 116 and from 75 to 113 respectively, the highest possible score being 140. The difference between the two groups was statistically non-significant.

One additional question remains: the possibility that there may be a relation between the student's self-attitude and his tendency to capitalize upon the anticipatory remarks. The communicant scores of the students who improved the most as a result of the introductory remarks were compared with the scores of the students who improved the least, or did worse, in the test with the remarks. The students who improved most had about a 20 per cent higher score on

the communicant scale. This difference is significant at the one per cent level, as shown in Table IV.

TABLE IV
SCORES ON COMMUNICANT SCALE OF STUDENTS WHO
IMPROVED MOST IN TEST WITH REMARKS
COMPARED WITH SCORES OF STUDENTS WHO
IMPROVED LEAST (N, 20)

	M	σd	t
Most Improved	107	12.10	3.28
Least Improved	88	12.47	

INTERPRETATION AND CONCLUSIONS

1. The data indicate that listener anticipation of the purpose of a message is an important factor in his comprehension.⁴ We may assume that the role of anticipation is considerably more important than our data suggest, for the testing design does not measure the difference between listening with purpose and listening without purpose. It is not possible to stop people from anticipating. The test with remarks reinforces anticipation and, therefore, measures that impact.

It is impossible to say with assurance just what happened to the listener as a result of listening to the introductory comments. For one student the remarks may have supplied an ingredient that he does not readily supply for himself. For other students the remarks may have been a corrective factor. Perhaps this student hypothesizes, but often inaccurately. For a third student the statements may have decreased the energy he usually spends in this anticipatory function and, therefore, allowed him to concentrate upon specific detail. Whatever the reasons, the data suggest that an anticipatory set that brings the goal into focus has a profound and favorable effect on listening.

⁴ It should be clear that we are talking about the informational purpose of the speaker, and not about the speaker's motivation.

2. Students at all levels of listening ability were equally aided by the statements of purpose. The experimenter had assumed that poorer listeners would improve more. This study does not support that assumption.

3. The study suggests that one's image of himself as a listener is not an accurate reflection of his listening ability. Some good listeners consider themselves poor and some poor listeners consider themselves good. The self-evaluation of the best and poorest listeners in this study was not different. The correlation between listening scores and the attitude scale was .26 and suggests a determination of variance of only about 6 per cent.

However, the students who took advantage of the prefatory remarks had a significantly higher evaluation of themselves as listeners than the students did who improved least. These facts suggest that there is some kind of relation between a good estimate of one's listening and ability to capitalize upon an improved anticipatory set. The person who responds favorably to the anticipatory statements provided by the speaker evaluates himself as a better listener than the person does who responds poorly to these statements. The data would suggest that a high estimate of one's listening ability may be illfounded but that it is positively related to his ability to capitalize upon an anticipatory set furnished him.

II

A STUDY OF THE RELATION OF THEORETICAL INTEREST AND LISTENING

The second study was designed to see if theoretical interest is related to listening comprehension. Observation and reasoning suggest that people with intense theoretical interest have more

curiosity than do most people and, therefore, would have a better comprehension of what they listen to. The question in this study is: Is theoretical interest related to listening comprehension?

PROCEDURE

In order to check this question, forty-seven students at Western Michigan University were given form IA of the Princeton Educational Testing Service listening test and the Allport, Vernon, Lindzey *Study of Values*. The *Scale of Values* tests the related strength of six human values: theoretical, economic, aesthetic, social, political, and religious. The manual explains theoretical interest as an interest in the search for truth, an interest in making comparisons and contrasts, an interest in observation and reasoning. Theoretical drive is what makes us try to order and systemize our knowledge.

ANALYSIS

A correlation of the scores of the two tests was made, using the Product Moment. The correlation was .28 which is significant at the 5 per cent level. The correlation is probably real but so low as to suggest little relation between theoretical interest and listening.

The listening scores of all students whose scores in theoretical interest ranked above the other five values were compared with the listening scores of all students whose scores in theoretical interest ranked below the other five values. There were seven students in the first group and ten in the second group. In the first group, those who ranked theoretical interest first, were all above average in listening and six of the seven ranked in the best ten listeners. Those who had the least theoretical interest were about average in listening ability, but two ranked in the best ten listeners.

However, the difference between the listening scores of the two groups is significant at the 5 per cent level. The t -value was 2.88.

The theoretical scores of the ten best listeners were compared with the theoretical scores of the ten poorest listeners. The difference in favor of the best listeners was not statistically significant. The t -value was 1.70.

INTERPRETATION AND CONCLUSIONS

The test scores in this study suggest that the theoretical interest of college freshmen is not significantly related to their listening. The correlation between listening and the scores of theoretical interest is too low to indicate any significant relation. In addition, scores of theoretical interest of the best and poorest listeners were not significantly different. The listening scores of those of lowest theoretical interest were about the average for the entire group.

However, the listening scores of that particular student group whose theoretical interest is a primary interest were significantly high. It would appear that very intense theoretical interest tends to guarantee good listening but that intense theoretical interest is not a necessary ingredient of good listening.

III

A STUDY OF THE RELATION OF WORD ASSOCIATION AND LISTENING

In the development of the Brown-Carlson Listening Comprehension Test the highest correlations among the parts of the test were found between the part on word clues and other parts of the test and between word clues and the total test.⁵ These correlations highlight the

⁵ The Brown-Carlson Listening Comprehension Test tests recall, following directions, recognizing transitions, recognizing word meanings, and lecture comprehension.

point that listening involves an understanding of the meaning of words. But the data also suggest that words may be the digits of nonmathematical language, that language skills are built upon the associations we make with words.

Probably all listeners gain word meaning from context, from word associations enforced by the speaker's arrangement. Since word arrangements and combinations are always changing, listening in large measure is a scanning skill. A person needs to be able to define a word many ways in order to listen. This type of scanning would suggest a high degree of relationship between the skills of free-word-association and listening ability. One might assume that the more associations a person makes with a word the better he listens. The study was designed to test this assumption.

PROCEDURE

Both forms of the Princeton Educational Testing Service tests of listening were administered to two groups of students, as previously explained. In addition, the students listened to a tape recording of 45 words spaced 25 seconds apart. The students were instructed to write during the 25 seconds between words as many words as were aroused by the stimulus word. The time allotment of 25 seconds was chosen after preliminary experimentation. There was no desire to test the speed of writing. Twenty-five seconds provided all the time needed by the slowest writer to put down the words that came to mind. The papers were scored on the basis of output, the number of words.

ANALYSIS

The word association scores of the better half of the listeners—as differentiated by the test form without the comments—were compared with the word associa-

tion scores of the poorer half of the listeners; the mean difference was twelve words in favor of the better students, too small to be significant statistically. The *t*-value was .87.

The word association scores of the ten students who improved the most as a result of listening to introductory remarks were compared with the scores of the ten who improved the least. The range of scores for the best listeners was from 164 to 260; the range for the poorest listeners was from 124 to 281. The mean scores were 186 and 185.2 respectively, obviously too close to merit further analysis.

The word association scores of the ten best listeners and of the ten poorest listeners as differentiated by the test prefaced by introductory remarks were compared. Again, the difference in favor of the better listeners was not statistically significant. The *t*-value was .74.

TABLE V
COMPARISON OF WORD ASSOCIATION SCORES OF
BEST AND POOREST LISTENERS AS DIFFERENTIATED
BY TEST WITHOUT PREFATORY REMARKS
(N, 20)

	M	σd	<i>t</i>
Best	196	35.7	2.1
Poorest	165	25.5	

The word association scores of the ten best and ten poorest listeners as differentiated by the test without introductory remarks were compared. The difference in favor of the best listeners is probably not significant. Table V gives the pertinent data.

INTERPRETATION AND CONCLUSIONS

The above data do not make a very good case for the hypothesis that good listeners make more associations with a word than poor listeners do. All the analyses are non-significant with the possible exception of the last. The data

would scarcely suggest significant relation between a great quantity of word association and listening comprehension.

These studies suggest, then, little relation between quantity of word associa-

tion and listening comprehension, little relation between theoretical interest and listening comprehension, and considerable relation between the anticipatory set and listening comprehension.

CHARACTERISTICS OF ADULT PATIENTS ENROLLED IN AN INTENSIVE SPEECH AND HEARING THERAPY PROGRAM*

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ALTHOUGH an important segment of practice in speech and hearing therapy is with adults, there is a paucity of information about a number of important aspects of adult patients. Information about common characteristics of patients enrolled in a therapy program influences the selection of clinicians, specific speech therapy offered, and other activities incorporated into the therapy plan. It also is important to planning social programs, psychological services, consultation and treatment for special problems, and housing for patients (if the therapy program is residential). Information regarding differences among patients may indicate the necessity for making exceptions to the general therapeutic program for the greater benefit of individual patients. The present study is a survey of adult patients enrolled in intensive speech and hearing therapy, and is intended to provide data which are not readily available in the literature.

PATIENTS STUDIED

Patients at the Speech and Hearing Clinic of the Pennsylvania State University and at the Behrend Extension Center of the University were used in this study. The programs of therapy at the two clinics were similar with respect to procedures and schedules, the clin-

icians at the Extension Center were graduates of the University, and the Center's program was supervised by the staff of the University Clinic. At both clinics persons over sixteen years of age and not in school were enrolled for intensive speech and hearing therapy. Admission procedures did not discriminate for or against any one type of patient except to exclude several cerebral-palsied persons who could not take care of themselves. Patients took temporary residence near the clinics for the period of therapy. Usually enrollment was for one to three fifteen-week semesters. Each patient received at least one hour individual and several hours group therapy per day, five days per week. The therapy programs also included social activities, physical education classes, and associated psychological, reading, and health services. Many persons were referred by the Pennsylvania Bureau of Vocational Rehabilitation to the clinics for examination and therapy. The services of the Bureau routinely were called to the attention of persons referred from other sources. Thus a large portion (95 per cent) of the patients included in this study were clients of the Bureau for partial or complete sponsorship.

The following criteria for entrance into therapy applied to patients included in this study:

* The authors wish to thank Ned J. Christensen, Instructor at The Pennsylvania State University, for carrying out the statistical computations for this study.

1. Handicapping speech or hearing disorder;
2. Sufficient intelligence to benefit from therapy (usually an I. Q. above 70 required);

3. Favorable prognosis (reasonable expectation that improvement could be obtained, although normal speech or hearing ability may not necessarily be attained);
4. Ability to care for personal needs, and ability to travel to and from the clinic for meals and lodging;
5. Reasonable responsibility and trustworthiness (need not be supervised closely during time outside the clinic);
6. Apparent interest and motivation.

PROCEDURES

Clinical folders of the 153 patients treated from the fall of 1949 to the spring of 1954 inclusive were examined for the following:

1. Type of disorder;
2. Sex, age at the time of entering therapy, and highest school grade attained;
3. Number of siblings in family, position of patient in the fraternity, and marital status;
4. Pre-therapy occupation;
5. Intelligence quotient. (A number of different tests were given, e.g., Wechsler-Bellevue, Otis; no attempt was made to equate the results from the various tests);
6. Personal adjustment. (A number of different tests were given, e.g., Rohrschach, Minnesota Multiphasic Personality Inventory, Bernreuter; on the basis of the psychologist's reports, patients were categorized by the authors as having good, average, or poor adjustment);
7. Presence of disorders other than the major speech or hearing problem, and special therapy given for the secondary disorders;
8. Number of semesters in therapy. (Half semesters were counted as whole semesters);
9. Reason for terminating therapy.

Because complete case records were not available for every patient, percentages and other statistical data were based only on those patients for whom records were found in a given area of information.

RESULTS

Relative proportion of cases. Among the entire group of 153 patients, fifty-nine per cent were males and forty-one per cent were females. About half were

males and half were females among the cleft palate, hearing, and articulation-defective patients; among the stutterers and cerebral-palsied patients there were about twice as many males as females. Of the 153 patients, twenty-seven per cent had cleft palate, twenty-nine per cent were stutterers, eleven per cent had cerebral palsy, thirteen per cent had hearing loss, and fourteen per cent had articulation defects; the remaining six per cent were in a miscellaneous category composed of two patients with voice problems, three aphasics, one with a hypothyroid condition, and three who had been laryngectomized.

Age and school grade completed. A lower age limit among patients was set by the policies of not admitting persons under sixteen years of age into therapy and of advising students with speech and hearing problems not to leave school. The majority (61 per cent) of the patient group had completed at least the twelfth grade. No upper age limit was established beyond which persons would not be admitted to the program, but apparently there is a tendency for persons with speech or hearing problems who were not given therapy soon after leaving school to make some type of vocational adjustment and to find it more difficult to enter therapy after being out of school several years. The median age for all patients was nineteen years-eight months. For all case types the males were of a few months older median age than the females; however, except for the stutterers, these differences in age were not statistically significant (Mann-Whitney test U did not reach the .10 level). The male stutterers had a median age of twenty-one years-four months which was significantly greater than the median age of eighteen years-six months for the female stutterers (U 2.24, P .01).

Family. There were no significant differences between median number of children in the families of males and females within any of the patient types. The median number of siblings in the families of all types of patients was 3.5. The cleft palate patients as a group came from significantly larger families (median number of siblings 5.3) than did any of the other patient types. For example, the median number of siblings for cleft palate patients was larger than the 3.6 median number of siblings for the stutterers ($U\ 3.60, P\ .0002$). There were no significant differences in the median number of siblings among the various non-cleft palate patient groups. With respect to size of the patients' fraternity, about ten per cent of the cleft palate, stuttering, and articulation patients were only children, in contrast to the twenty per cent of the cerebral-palsied and thirty-three per cent of the hearing loss patients who were only children.

Five per cent of all patients were married. The manner of case selection probably was an important, but not necessarily the only, factor determining this percentage.

Pre-therapy occupation. Thirty-nine per cent of all patients were high school or college students immediately before entering therapy. This was the most common single occupation, and appeared to be a function of case finding procedures, namely, of having Bureau of Vocational Rehabilitation agents survey high schools for persons needing rehabilitation. Of the total group, fourteen per cent were in unskilled jobs, twelve per cent had a trade, and thirteen per cent were in other occupations such as housewife, farmer, and electrical engineer.

Psychological aspects. The median I.Q. of the total group of patients was 96, i.e., lower than average, but well

within what is usually considered the normal range. For all case types, males had higher median I.Q. ratings than did females, but only stuttering males, with a median I.Q. of 107, were significantly higher than their female counterparts, who had a median I.Q. of 98 (Mann-Whitney $U\ 1.99, P\ .02$). The Kruskal-Wallis one way analysis of variance indicated a significant difference with respect to I.Q. among patient types ($H\ 8.20, P\ .05$). The I.Q.'s of each patient type were compared with each other patient type using the Mann-Whitney U test. Significant differences were found between the stutterers' median I.Q. of 102 and the cerebral-palsied patients' median I.Q. of 94 ($U\ 2.45, P\ .007$), the stutterers' median I.Q. and the cleft palate patients' median I.Q. of 94 ($U\ 2.27, P\ .012$), and the stutterers' median I.Q. and articulation-defective patients' median I.Q. of 94.5 ($U\ 1.62, P\ .052$). The stutterers' median I.Q. was not significantly different from the hearing handicapped patients' median I.Q. of 96 (U did not reach the .10 level). Comparisons between median I.Q.'s of patient groups other than stutterers did not reach the .10 level of significance.

Forty-nine per cent of all patients were classified as having poor personality adjustment. The cleft palate patients had a smaller proportion (thirty-six per cent) in the poor adjustment category than did the cerebral-palsied patients (sixty-four per cent), the stutterers (fifty-four per cent), the hearing loss group (fifty per cent), and the articulation-defective group (fifty per cent), but none of these differences reached the .10 level of significance according to chi square tests.

Other disorders. Of all patients twenty-six per cent had disorders other than the major ones for which they were

being treated. The most common of the secondary disorders were hearing loss (thirty-eight per cent), reading disability (eighteen per cent), visual difficulty (ten per cent), and brain injury (twenty per cent). Sixteen per cent of all patients received treatment for secondary disorders during the course of speech therapy. Thirty-eight per cent of this secondary therapy was in the form of hearing aids and instructions in their use. Other secondary therapies included reading, medical-dental and psychiatric attention. Many more patients received treatment other than speech training during their total rehabilitation program, but their special needs were taken care of before entering speech therapy, or, if the problems were judged not to interfere with therapy, they were treated later so as not to interrupt the course of therapy. (Reading disability may be more common than reported among the present group of subjects. However, it was only toward the end of the time span covered in this study that it was possible to have a systematic program of testing for reading disability, and most of the patients getting reading therapy were enrolled during the latter part of the time covered by this study.)

Semesters in therapy. Of the total group of patients, forty-five per cent were treated for one semester, forty-three per cent were treated for two semesters, and the remaining twelve per cent were treated for three or four semesters. There was considerable variability among patient types in this respect, especially for the cerebral-palsied. Among them twenty-four per cent were treated for one semester, fifty-two per cent for two semesters, and twenty-four per cent for three or four semesters.

Reasons for termination of therapy. Among all patients, fifty-one per cent were dismissed from therapy with

acceptable or normal speech. An additional thirty-six per cent were dismissed because the limit of therapy was reached, i.e., the patients had the best speech of which they seemed capable because of physical or motivational problems. The remaining thirteen per cent left for a variety of reasons not closely associated with their speech or hearing condition (patient refused further therapy or took employment, Bureau withdrew financial support, and so forth).

By case types, the highest percentage dismissed with speech judged to be essentially normal was among the cleft palate patients (77 per cent). The stutterers were next highest (58 per cent), and the hearing loss and articulation groups followed (41 per cent and 45 per cent respectively). Among the cerebral-palsied, few attained normal speech (six per cent); the most common reason for dismissal of cerebral palsy patients was that the limit of therapy was reached (94 per cent).

SUMMARY

For the present study, 153 adult patients (sixteen years or older) treated from 1949 to 1954 in two speech and hearing clinics with similar residential intensive therapy programs were utilized. Case folders of these patients were examined, and the following statements appear to be descriptive of the patients. (About 95 per cent of the patients were sponsored wholly or in part by the Pennsylvania Bureau of Vocational Rehabilitation.)

Typically, the patients were nineteen to twenty years of age, recent graduates of high school, and unmarried. Among the stutterers and cerebral-palsied patients there were about twice as many males as females, while there was about an equal distribution between the sexes for patients with other types of dis-

orders. Commonly, the patients were from families in which there were two or three other children, although the cleft palate patients often came from families of five or six children. Hearing handicapped and cerebral-palsied patients were more likely to be only children than were other types of patients. About ninety-four per cent of all persons admitted to therapy had disorders of stuttering, cleft palate, cerebral palsy, hearing loss, or articulation. Of all patients, twenty-six per cent had disorders other than the speech or hearing defects for which they were treated; sixteen per cent of all patients received attention for these secondary disorders. As a total group the speech and hearing patients (median I.Q. 96), did not deviate to a large extent from the general population in intelligence level. (Criteria for admission to therapy eliminated mentally retarded persons.) However, stuttering males tended toward higher intelligence (median I.Q. 107) than did stuttering females, and as a group stutterers tended toward higher intelligence levels than did patients with other types of disorders. Among patients of all types,

forty-nine per cent were classed as having poor personal adjustment. A lower proportion of the cleft palate patients (36 per cent) had poorer adjustment than did all other patients, and a higher proportion of cerebral-palsied patients (64 per cent) had poorer adjustment than did all other patients. In general, the patients spent one or two semesters in therapy, but longer terms of therapy were common for those with cerebral palsy. Among all patients, fifty-one per cent had normal speech at the time of termination of therapy. The percentage with normal speech was highest among those with cleft palate (77 per cent) and lowest among those with cerebral palsy (six per cent). Stutterers (58 per cent), hearing loss cases (41 per cent), and the articulation-defective (45 per cent), were between these extremes in proportion dismissed with normal speech. Among those who did not attain normal speech, most were dismissed because the limit of therapy had been reached: that is, further speech therapy was not expected to produce further improvement in speech or hearing abilities.

A STUDY OF THE EFFECT OF AUDIENCE PROXIMITY ON PERSUASION

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PRACTICAL speakers as well as rhetorical theorists have for some time concerned themselves with the question of the interaction of members of an audience in the public speaking situation. The notions on this subject can be synthesized into three major hypotheses:

1. The spoken message is more effective the closer the members of an audience sit to each other, i.e. as the "density" of the audience increases.
2. The spoken message is more effective as the size of the audience in relation to the size of the room increases.
3. The spoken message is more effective the closer in distance the audience is to the speaker.

The literature supporting these propositions is long in number but short in objective investigation. A casual survey of standard textbooks in public speaking, persuasion, and the psychology of speech reveals such statements as: "Pack the audience close together";¹ "The number of people in the audience in relation to the size of the room also will affect the speaker-audience relationship";² "Have the members of the audience sit close together";³ "Wise speakers ask their audiences to come up and fill the front seats or to move in from the sides."⁴

Almost without exception, these state-

ments, although possessing face validity, are not substantiated by experimental evidence. Where documentation appears, it is usually in the form of references to early studies made by psychologists and social psychologists in the area of "crowd behavior." As early as 1921, Coleman R. Griffith reported on a study made at the University of Illinois of various university classes which met in five large classrooms on the campus.⁵ An investigation of 20,000 test, laboratory, and final grades earned by the students in these classes revealed that a relationship existed between the position in the room occupied by the student and his grades in spite of the fact that all students were seated alphabetically and, therefore, at random with respect to factors that might affect the results. In general, Griffiths discovered that:

(1) students seated in the front one or two rows secured grades 3 per cent to 8 per cent lower than those of students seated in the middle of the room; and

(2) students seated in the last one or two rows secured grades 10 per cent lower than those secured by students seated in the middle of the room; and

(3) when the group was divided by horizontal or vertical aisles, students seated in the main section or sections received grades 5 to 10 per cent higher than the grades of those seated in the "fringe" sections. It should be emphasized, however, that Griffith's study was

¹ W. N. Brigance, *The Spoken Word* (New York: F. S. Crofts, 1931), p. 153.

² E. E. White and C. R. Henderleder, *Practical Public Speaking* (New York: Macmillan Co., 1954), p. 29.

³ Robert T. Oliver, *Training for Effective Speech* (New York: Dryden Press, 1939), p. 332.

⁴ Andrew T. Weaver, *Speech, Forms and Principles* (New York: Longmans, Green & Co., 1942), p. 347.

⁵ Coleman R. Griffith, "A Comment upon the Psychology of the Audience," *Psychological Monographs* XXX (1921), 36-47.

concerned with learning rather than with attitude change. Although some correlation may exist between these two, most studies would indicate that the relationship is very small.

Allport has reported on experimental studies of the effect of social stimulation within a group. Citing experiments by himself, Mayer, Schmidt, Meumann and others, he concludes that, in general, social stimulation tends to bring about an increase in the speed and quantity of work produced by individuals. Extending these findings to the crowd situation and drawing upon statements by W. D. Scott and C. R. Griffith, Allport reaches the following conclusion concerning public speaking:

Public speakers not only aim to produce individual responses of value for social facilitation; they give attention also to the spatial factors influencing the action of such stimuli. Requesting a scattered audience to sit near the front not only increases the direct control of the speaker, but also brings the auditors sufficiently close together for the expressive behavior to take effect upon one another.⁶

Other social psychologists such as La-Piere and Young concur with Allport's statement.⁷ They are generally agreed, also, on the cause of this phenomenon. Rejecting Le Bon's theory of a "collective mind" and refuting McDougall's theory that the facial and bodily expressions of emotions act as a stimulus to the beholder, Allport suggests that such expressions contribute to, but do not induce, social facilitation. The individual himself possesses a reason for the reaction he expresses; the audience merely "sets off" an emotion already existent in the individual. Bringing an

audience closer together, therefore, allows "their expressive behavior to take effect upon one another."⁸

It would seem, therefore, that no experimental evidence exists that would bear directly on the question of "audience density" and its effect on the impact of a speech. No study has been designed specifically in the field of public speaking to test the hypotheses posited at the beginning of this article. It was the purpose of this study to examine and, if possible, to support or deny at least the first two of these hypotheses by experimental methods. With this in mind, a series of experiments was conducted at Michigan State University during the past two years. These experiments demanded three conditions for satisfactory completion; a speech sufficiently persuasive in nature to cause, in normal situations, measurable shifts of audience attitude toward the subject; several audiences having, in general, no strong and unalterable feelings about the subject; and a measuring instrument sufficiently sensitive to discriminate among varying degrees of change in attitude toward the speech subject.

The speech selected for both pilot studies and for the final experiment was an oration on the subject of the Arab-Israeli dispute. This particular oration, delivered by a student at Michigan State University, had been awarded first place in the men's division in the Interstate Oratorical Contest in 1957. For this reason, it was felt that the speech had merit and almost axiomatically must possess persuasive values for an audience. In all experimental situations, the student himself, a Christian Arab having a deep feeling for his subject, was used in the delivery of the speech. The speech itself was about 1600 words in length and took about 12 minutes to de-

⁶ Floyd H. Allport, *Social Psychology* (Boston: Houghton Mifflin Company, 1924, p. 301.

⁷ See: Richard T. La Piere and Paul R. Farnsworth, *Social Psychology* (New York: McGraw Hill Book Co., Inc., 1936), p. 426, and Kimball Young, *Social Psychology* (New York: F. S. Crofts, 1945), pp. 399-408.

⁸ Allport, p. 295.

liver. Its message was that the Arabs who had been living in Palestine before the creation of the state of Israel had been unfairly treated and that the people of the United States should weigh both sides of the question before reaching a final judgment on the problem. The speech was on a topic about which, it might be assumed, college students were only slightly informed and on which they did not have inflexible attitudes. The nature of the speech was such that it had, intrinsically, considerable potential for persuasive appeals.

Audiences for experimental purposes were readily available through the multi-sectioned courses in the department of speech at Michigan State University. One requirement for all students who enroll in these courses is that they participate in one hour of experimental work during the term. For all experimental situations, the subjects were selected at random; for this reason it was assumed that the attitude toward the Arab-Israeli question in all groups before the experiment was roughly the same. This equating of groups on the basis of subject attitude was not of prime importance, however, since it was the differences between scores on a pre-test and those on a post-test that were employed for measuring attitude change. The random choice of subjects, however, would minimize the effect of differences in linguistic ability from one student to another.

The measuring instrument employed was the Osgood Semantic Differential. Basically this is an instrument designed to record a subject's attitude toward certain phenomena, verbal or non-verbal, by extrapolating from that phenomena characteristic concepts, in the form of words or groups of words, which are rated on scales which fall into three categories: evaluation, strength, and

activity. The subject records his attitude toward a particular concept by checking a seven point scale. Thus, for example, the first concept-scale on the test used in the final series of experiments was:

ARAB good : : : : : : : bad

Subjects were asked to mark a check (✓) on the scale at a place that would describe their attitude toward the concept. If they had no feeling at all or if they felt that the scale was completely irrelevant, they were to place the checkmark in the middle space; if they felt that the word *Arab* is very closely related to one end of the scale or the other, they were to place the checkmark in one of the extreme positions on the scale; if they felt that the word is partially related to one side of the scale as opposed to the other, they were to place the checkmark between the middle space and one of the extremes. Students were given the following suggestions in marking their tests: (1) Work fast; do not worry or puzzle over items; give first reactions; (2) Be sure you check every scale—do not skip any; (3) Put only one mark on any scale; put your checkmark in the middle of spaces, not in the boundaries.

The specific form of the Osgood Semantic Differential employed in this study was gradually refined from the first pilot study to the final experimental situation. The first instrument constructed employed 12 different concepts and 12 scales for a total of 144 items. The concepts included such words and phrases as "Arab," "Moslem," "Israel," and "American Aid to Arab Countries." The scales included eight evaluative (good-bad, clean-dirty, kind-cruel, etc.), two strength (strong-weak, thick-thin), and two activity (active-passive, fast-slow). Following the first pilot study, an analysis of the items revealed

that a number of the scales were either not operating at all or the direction of their measurement was erratic. The instrument was accordingly revised and the number of test items was reduced to 50 with five concepts and ten scales, six of these being evaluative, two of them being strength, and two of them being activity. A further analysis of these items reduced the test to 40 items for the final series of experiments. Five concepts (Arab, Jewish Propaganda, Israel, Present American Aid to Arab World, and Jew) were employed with eight scales, all of them being evaluative (pleasant-unpleasant, valuable-worthless, kind-cruel, nice-awful, honest-dishonest, fair-unfair, good-bad, and clean-dirty).

As has been indicated, previous to the final series of experiments, two pilot studies were conducted using the same speech and speaker but different forms of the pre- and post-test. Statistical analysis was made of the resulting scores but no significant differences between one experimental group and the other were discovered.

The final series of experiments was conducted during the spring term of 1957. The 40-item semantic differential test was administered to all students enrolled in multi-section courses in the Speech Department. Two weeks later these students were asked to attend one of the several experimental group situations characterized by six different conditions. These conditions were:

(1) all seats in the room occupied except for the front row and six seats in the back row;

(2) none in the first three rows; thereafter the subjects scattered with four and three alternately in each row;

(3) the last four rows only completely filled;

(4) the middle four rows only completely filled,

(5) the first four rows only completely filled,

(6) subjects scattered with four and three alternately in each row.

All other students who showed up for the experiment but who were not utilized in one of the experimental situations were asked to take the post-test without listening to the speech. These students constituted the control group.

The entire experiment was completed in two successive evenings. In each of the six situations external conditions were kept, as far as possible, exactly the same. An effort was made to keep the content and the delivery of the speech exactly the same from one experimental situation to the other. While perfect duplication was, of course, impossible, this writer feels that they were sufficiently similar as to preclude any serious variables arising from this source.

In each experimental situation the speaker was introduced to the audience with a brief introductory statement, telling who he was and giving the title of his speech. The students were asked to "sit back, relax, and just listen to the speech." Following the delivery of the speech, a copy of the test was handed out to each subject and the entire group was asked to complete the rating scale. Before leaving, each subject was asked to record his seat number on the rating scale.

Pre-test and post-test papers were now matched for each student; this resulted in some attrition since some subjects who appeared for the experiments had not completed the pre-test and some students who had completed the pre-test did not appear for any of the experiments. All scores for pre-test and post-test ratings were punched on IBM cards, and a set of cards recording the differences between pre-test and post-test scores for each concept and each scale

was made for each subject. A *t*-test was made of the means of pre-test and post-test scores for all items on the semantic differential. Means and standard deviations were obtained for each concept (all scales) for each of the experimental conditions as well as for the control group. These data were evaluated by means of an analysis of variance. Three other statistical analyses were made. In the first of these, an attempt was made to determine what effect the number of people seated around any individual subject had had on the degree to which he was influenced by the speech. Presumably, the closer to the center of any group a member of that group was located, the greater would be the number of social stimuli influencing him; the farther away from the center of the group, the fewer would be the social stimuli influencing him. A plan of the seats in the room used for the experiment was overlaid with a series of four concentric squares. Means and standard deviations were computed for difference scores on each concept (for all scales) for each group of subjects in that group of seats bounded by one square and the next. These data were evaluated by means of a series of analyses of variance. Finally, in order to make a comparison with the results of Griffith's study, not on the basis of class grades received, but on the basis of degree of shift in attitude toward a speech subject, means and standard deviations were computed by rows for the subjects in Condition 1.

RESULTS AND INTERPRETATION

On the basis of *t*-tests, 98 of the total of 240 (40 items for each of six experimental conditions) differences between means of pre-test and post-test scores for all items on the semantic differential were significant at the 5% level of confidence, 42 of these being

significant at the 1% level. Similar *t*-tests for differences between means of pre-test and post-test scores for all items in the control group revealed that only 3 out of 40 were significant at the 5% level of confidence and none at the 1% level. Since, by chance, 2 of the 40 might be expected to be significant at the 5% level in the control group and only 12 in the experimental groups, it was felt that substantial evidence existed to indicate that the speech employed in the experiment was sufficiently persuasive to move several audiences in their attitude toward the Arab-Israeli question to a degree greater than might be expected by chance. It would also indicate that the Osgood Semantic Differential is a valid instrument for measuring attitude change in the public speaking situation; since movement was not only significant but was in the direction intended by the message of the speech, that is, more favorable toward the Arab position and less favorable toward the Israeli position.

Central, of course, to this study was the question of whether or not change scores differed significantly from one experimental group to another, particularly in a comparison of the "closely seated" group and the "scattered" group. Of the 40 analyses of variance performed on the change scores for each item on the semantic differential over all six experimental conditions, only three were significant at the 5% level of confidence. Because two of the forty might by chance be expected to be significant, no statement can be made about the effect of the degree of proximity of members of an audience on the effectiveness of a persuasive message on those audiences.

When change scores were collapsed across scales and concepts for each of the experimental conditions, the results remained the same with an analysis of

variance yielding an F of 0.91. Inspection of the mean change scores in each of the experimental conditions for all scales and concepts showed no meaningful pattern. Although the first condition (room full except for front row and last six seats) had the greatest mean change score (17.99), the second condition (scattered over room except for first three rows) had the second highest mean change score (17.33). The lowest mean change scores were produced by the third condition (last four rows filled) and by the fifth condition (front four rows filled). These results would tend to support Griffith's findings that students in the front of a room and at the back of a room tend to do more poorly than do those in the middle of the room. The results do not, however, seem to support two of the original hypotheses of this study, that the spoken message is

more effective as the size of the audience increases and that the spoken message is more effective the closer in distance the audience is to the speaker.

Analyses of variance were performed on the change scores for each of the concentric squares by concept, group A being those students seated at the periphery of the room, group D being those students seated in the center of the room, and groups B and C being those groups seated between A and D. These data are shown in Table I. Two of the F 's are significant at the 1% level of confidence, but both of them are accounted for by the fact that Group C changed more than did the other groups on the concepts "Jewish Propaganda" and "Jew." The means for each group and standard deviations on the five concepts are given in Table II.

TABLE I
ANALYSES OF VARIANCE FOR CHANGE SCORES ON 5 EVALUATIVE CONCEPTS FOR FOUR GROUPS SEATED IN CONCENTRIC SQUARES.

Concept	Source	Sum of Sq.	Deg. of Fr.	Mean Sq.	F
Arab	Between	245.53	3	81.843	1.317
	Within	5530.04	89	62.135	
Jewish Propaganda	Between	766.74	3	255.580	3.099*
	Within	7337.78	89	82.447	
Israel	Between	84.15	3	28.050	0.379
	Within	6591.66	89	74.064	
Present American Aid	Between	126.55	3	42.183	0.313
	Within	11998.35	89	134.813	
Jew	Between	572.70	3	190.900	3.246*
	Within	5234.42	89	58.814	

*Significant at the 1% level.

TABLE II
MEANS AND STANDARD DEVIATIONS FOR CHANGE SCORES ON 5 EVALUATIVE CONCEPTS FOR FOUR GROUPS SEATED IN CONCENTRIC SQUARES (CONDITION 1)

		Concepts									
		Arab		Jewish Prop.		Israel		American Aid		Jew	
Groups*	N	M	σ	M	σ	M	σ	M	σ	M	σ
A	26	3.77	8.60	-1.77	5.39	-0.58	7.81	-6.19	12.43	-3.46	7.11
B	25	4.76	8.36	1.60	8.92	-0.76	6.88	-6.16	13.46	-3.76	8.60
C	19	6.95	10.70	-6.26	14.01	-3.11	11.93	-6.95	13.52	-8.84	12.70
D	23	2.22	8.47	0.61	8.76	-1.04	7.66	-9.00	14.31	-1.70	7.29

*Group A—Students seated on periphery.

Group B—Students seated next to periphery.

Group C—Students seated next to center.

Group D—Students seated at center.

An inspection of the means of the change scores for each group reveals that, for the first concept (Arab), Group C made the highest average change, while Group D (the most central group) made the lowest average change. For the second concept (Jewish propaganda), Group C made the highest average change in the direction intended by the speech, while Group B made the least. For the third concept (Israel), the group making the greatest mean change was Group C, and the least mean change was for Group A. On concept four (Present American Aid), the highest change score was for Group D and the least mean change for Group B. On the final concept (Jew), Group C had the largest mean change score, and Group D had the least mean change score.

Thus, although Group C changed more than did the other groups on four of the five concepts, neither Group A nor D was consistently low or high in amount of change, thereby failing to substantiate the hypothesis that the more central a person is in an audience the more he is likely to be influenced by a persuasive speech.

Change scores were collapsed across scales and concepts for all of the experimental conditions by each of the four seating blocks. An analysis of variance

of these composite scores did not yield any significant statistic. The *F* on this analysis was 1.78. Further statistical analysis was not made of these data since a casual examination of them shows that there is little pattern to the means of the change scores for each concept and that what little pattern does exist does not support the theory that those in the center of an audience are more greatly influenced by a speech than are those who sit on the perimeter of that room.

Inspection of mean change scores for each row in condition 1 revealed no meaningful pattern. For the concept "Arab," row 1 made the greatest mean change while the middle two rows changed in a direction opposite to that which was intended by the speech. Summing the mean change scores for the five concepts shows that, although row 3 made the greatest mean change in attitude, row 4 made the least mean change. When change scores were collapsed across scales and concepts on all conditions, an analysis of variance yielded an *F* of only 0.91.

Means and standard deviations on each concept by rows of subjects in the audience in condition 1 are given in Table III.

TABLE III
MEANS AND STANDARD DEVIATIONS OF CHANGE SCORES FOR EACH CONCEPT
BY ROWS IN EXPERIMENTAL CONDITION 1.

Concepts											
	Arab			Jewish Prop.		Israel		American Aid		Jew	
Row	N	M	σ	M	σ	M	σ	M	σ	M	σ
1	6	10.00	5.66	-0.33	2.62	-3.50	5.92	-9.00	11.05	-2.00	4.24
2	6	1.83	6.32	-1.67	7.35	0.50	5.95	-6.33	15.91	-5.33	7.48
3	7	6.00	11.77	-6.29	9.98	-8.43	8.44	-3.14	8.84	-10.14	10.56
4	10	6.10	6.25	3.30	8.46	-0.20	4.69	-3.80	11.36	0.90	4.90
5	7	-2.57	9.98	-7.86	6.40	-3.60	6.71	-11.29	10.20	-6.86	8.15
6	8	-2.75	7.68	0.13	4.32	-2.13	8.17	-12.25	13.60	-5.00	9.50
7	12	4.42	7.87	0.58	8.18	-4.08	9.78	-7.83	14.32	-5.42	8.89
8	9	4.44	5.17	-0.89	12.55	-0.44	4.44	-9.22	13.11	-0.56	4.42
9	10	7.90	7.08	-2.80	14.53	1.40	11.50	-4.00	10.48	-8.60	8.64
10	10	7.20	7.67	-1.00	12.15	2.10	7.42	-4.60	7.80	-1.50	7.59
11	8	2.75	3.51	0.63	4.03	2.75	9.13	-7.75	8.36	-3.25	6.39

Finally, an examination of the mean change scores by columns of seats when these scores were collapsed over all scales and concepts for all of the experimental conditions showed no meaningful pattern. With columns of seats numbered 1 to 13 from left to right, column 6 had the lowest mean change score while column 8 had the highest. An analysis of variance of these scores yielded an F of 0.61.

CONCLUSIONS

Within the context of this particular experiment, the following conclusions can be made:

1. The Osgood Semantic Differential is an effective method of measuring change in audience attitude as a result of a persuasive speech.
2. There is not sufficient evidence to support the hypothesis that a speech is more likely to be persuasive in a room where the members are seated close to one another than it is in a room where the members of the audience are scattered.
3. The size of the audience seems to have no significant effect on the degree

to which the audience is influenced by persuasive appeals in a speech.

4. There is little evidence to support the hypothesis that the position of an audience member in a room has an effect on his susceptibility to persuasive appeals. Whether he sits on the perimeter or in the center, at the back, in the middle, or in the front makes little difference on the degree to which he changes his feelings toward the subject being presented.

In short, the results of this experiment do not support the belief of speech teachers and social psychologists that a speaker is more likely to be effective in his persuasive appeals if he brings the audience closer together as well as closer to the speaker. This statement is true, at least, for normal speech situations where the members of the audience are seated in fixed chairs placed close to one another in several rows. Different results might be obtained if one would more closely approximate the "crowd" situation, i.e., by having the members of the audience standing and in close contact with one another.

A STUDY OF WORD DIVERSIFICATION*

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PURPOSES OF STUDY

This research represents an attempt to evaluate partially the relationship between the encoding processes of impromptu writing and those of impromptu speaking. It attempts to determine experimentally the difference in word diversity when a student is confronted with these two situations. The *Type-Token Ratio*¹ is the measure used to evaluate the word diversity of subjects.

Specific hypotheses are advanced for which answers are sought.

1. Method (impromptu writing vs. impromptu speaking) is a factor in word diversification.
2. Sex influences writing-speaking word diversification.
3. Emotional tone of material (pleasant, unpleasant) is a factor in word diversity.

The analysis of previous studies indicated that these hypotheses had not been studied experimentally in situations unique to this study.

The work of Johnson² and his col-

leagues Fairbanks and Chotlos³ was concerned primarily with problems of method and the measurement of word diversification.

J. B. Carroll carried out a study of the diversity of vocabulary.⁴ He recognized that samples of speech or writing vary according to age, intelligence, and background.⁵ These speech samples will be found to differ in *diversity* or relative variety of words used. Carroll pointed out that it is not always possible to take the mean numbers of different words in segments of standard size, and suggested the use of a *diversity curve* which would show the relation between the number of different words in the sample and the total number of running words. A constant in the equation of this curve serves as an index of diversity. In application Carroll suggests that such an index of diversity might be applied to differentiate linguistic variables such as style.

Through the efforts of these significant pieces of research much has been done in the field of the measurement of word diversification itself and in the way of research technique.

Others, interested in a study of the effect of anxiety and stress upon speaking and writing, also have made significant contributions. In the general field of anxiety and learning, Diethelm and Jones, reported by Johnson,⁶ found that

* This research was done under an All-University Research Grant, Project No. 821, at Michigan State University for 1957-1958. The raw data are included in a final report to the University Committee.

¹ The Type-Token Ratio (TTR) shows the relationship between the total number of different word types in a given oral or written sample and the total number of running tokens. For example, if in a given sample of 200 running words one would find 100 different words, the TTR would be obtained by dividing 200 into 100 with the resultant TTR of .5.

² Wendell Johnson, "Studies in Language Behavior, A Program of Research," *Psychological Monographs*, LVI (1944), 1-15.

³ Helen Fairbanks, "The Quantitative Differentiation of Samples of Spoken Language," *Psychological Monographs*, LVI (1944), 17-38.

⁴ J. B. Carroll, "Diversity of Vocabulary and the Harmonic Series of Law of Word Frequency Distribution," *Psychological Record*, XI (1938), 379-386.

⁵ Ibid.

⁶ Johnson, loc cit.

the presence of clinical anxiety significantly reduced scores on the Kohs Block Design Test for most adult subjects, and that maze learning was slower under anxiety conditions; while Malmo and Amsel, reported by Mandler,⁷ investigating the effect of neurotic anxiety on rote learning and demonstrating the role of anxiety-produced interference on learning, concluded that "the forgetfulness of the anxious patient is due to anxiety-produced interference between the relevant responses and the irrelevant responses generated out of the patient's anxiety state." George Mandler and Seymour Sarason⁸ conducted a study in which the measure of anxiety was based upon a questionnaire specifically concerned with the subject's attitude and experiences in a testing situation, and reached the conclusions that: (1) the mean time scores of the Kohs Block Design Test of the low anxiety group was better than that of the high anxiety group for the first five trials; (2) the variability of the high anxiety group was significantly larger than that of the low anxiety group; (3) as the learning process proceeded, the anxiety drive of the high anxiety group tended to improve the performance scores; and (4) an intervening report (on success or failure) elicited improved performance for the low anxiety group but depressed scores for the high anxiety group. It appears "that the optimal conditions for a high anxiety group are those in which no further reference is made to the testing situation and that the optimal conditions for a low anxiety group are those in which the subjects are given a progress report."

⁷ George Mandler and Seymour Sarason, "A Study of Anxiety and Learning," *Journal of Abnormal and Social Psychology*, XLVII (1952), 166-173.

⁸ Ibid.

Emory Cowan, reported by Combs,⁹ studying the influence of varying degrees of psychological stress on problem-solving rigidity¹⁰ increased under increasing degrees of psychological stress. Arthur W. Combs and Charles Taylor¹¹ seeking to prove that "mild threat to the self during the performance would result in an increase in the time required to complete the task and in the number of errors made in the performance of the task," worked with a group of volunteers, all subjects interested in taking part in an experiment, who were engaged in a simple task of learning to translate sentences written in a code. Of the sentences in the experiment one series was neutral, the other a threat series containing statements which were likely to be repugnant or embarrassing to the subject. In every instance but one, the subjects needed more time to complete the threat sequence than the non-threat sequence. Also, with one exception, the subjects made more errors under threat than in response to neutral items. Combs and Taylor thus showed that a mild perception of threat can affect the adequacy of an individual's behavior.

Ernst Beier,¹² also experimenting in the general field of the effect of anxiety upon learning, found that there was a statistically significant difference for all tests which followed induced threat to the disadvantage of the threatened group. He also detected possible indications that maladjusted individuals were

⁹ Arthur W. Combs, and Charles Taylor, "The Effect of the Perception of Mild Degrees of Threat on Performance," *Journal of Abnormal and Social Psychology*, XLVII (1952), 518.

¹⁰ Combs, *supra*. Defined as "the tendency to adhere to an induced method of problem-solving behavior when the induced solution no longer represents the most direct and economical path to the goal."

¹¹ Combs and Taylor, pp. 420-424.

¹² Ernest G. Beier, "The Effect of Induced Anxiety on Flexibility of Intellectual Functioning," *American Psychologist*, IV (1949), 273-274.

handicapped from the start and suffered more from induced threats. He noted, too, that poor performance on the tests did not necessarily indicate poor capacity but seemed to be the function of the threat. He concluded, therefore, that individuals in a stage of induced anxiety show greater rigidity and disorganization in perceptual fields.

Brown and Farber¹³ presented the requirements for a theory of emotion and examined the treatments of emotion in the light of their requirements; they presented outlines of both an "emotional" and "nonemotional" theory of behavioral patterns commonly given to anger or frustration.

Lazarus and Brown¹⁴ said that in the analysis of an individual's performance under stress, it is usually not possible "to separate the effects due to operation of emotional disruption from those due to the directive characteristics of motivation."

Finally, Merrill¹⁵ was interested in examining the effect of stress upon verbal behavior patterns in the areas of impromptu speaking and reading aloud. He was interested in comparing the decoding process of reading with the encoding process of impromptu speaking.

The present research compares the encoding processes of impromptu writing and impromptu speaking.

PROCEDURE

The experimental subjects were 33 men and 33 women enrolled in the *regu-*

lar *Basic College Communication Skills* course in the Fall of 1957 at Michigan State University. They wrote two themes and recorded two speeches.

Professional recording equipment and supplies were utilized for this experiment. After the subject was briefed, the operator gave the signal to start speaking.

The following instructions were given before each subject gave his impromptu speech:

Three weeks ago you wrote a theme on your most pleasant or unpleasant experience (as the record indicated). As soon as the operator gives you the signal to start, please give your name, date, and title of your experience. The time limit of your speech will be three minutes. I will give you a 30 second warning signal as well as the signal to quit.

All subjects performed individually under the same experimental conditions. Three *Communication Skills* sections wrote in class, without previous preparation, one theme on the subject, "My Most Pleasant Experience," and another theme on the subject, "My Most Unpleasant Experience." The following instructions were given for each of the two themes:

Please write *only* your name and the date. You may use both sides of the paper. You will have thirty-five minutes. I will record the time on the board (15, 20, 25, 30, 35 minutes). Since this is a test exercise to determine how well you can write at the beginning of the quarter, please do not use any reference materials, whisper, or ask questions after the test has begun. You may use scratch pages if you wish for preliminary organization or a rough draft.

The experimental design is explained in Figure 1.

Upon the completion of the impromptu speeches, a duplicate tape was made for transcription and for the safety of the data. The transcribed speeches and the themes then were ready for the computation of Type-Token Ratios (TTR).

¹³ Judson S. Brown and I. E. Farber, "Emotions Conceptualized as Intervening Variables—With Suggestions Toward a Theory of Frustration," *Psychological Bulletin*, XLVIII (1951), 465-495.

¹⁴ Richard S. Lazarus, James Deese, and Sonia F. Osler, "The Effects of Psychological Stress Upon Performance," *Psychological Bulletin*, XLIX (1952), 293-317.

¹⁵ I. R. Merrill and C. E. Osgood, "The Effect of Success and Failure upon Reading Aloud and Impromptu Speaking," University of Illinois, 1953, unpublished research.

FIGURE 1—EXPERIMENTAL DESIGN

Date	Activity	Groups		
		A	B	C
10/8/57	Writing	U*	P**	P
10/15/57	Writing	P	U	U
10/29-30/57	Speaking	U	P	P
11/5-6/57	Speaking	P	U	U

*U—Unpleasant Material

**P—Pleasant Material

Note: The procedure was varied within the groups in case pleasant, unpleasant material might make a difference in the matter of impromptu speaking or writing.

TABLE I
ANALYSIS OF VARIANCE FOR TYPE-TOKEN RATIOS

Source of Variation	SS	df	MS	F
Sex	.020	1	.020	6.47*
Method (Writing-Speaking)	.461	1	.461	147.56**
Emotion (Pleasant-Unpleasant)	.020	1	.019	6.25*
Total individuals tested	.470	64	.007	2.35**
S&E	.000	1	.000	.12
S&M	.005	1	.005	1.72
M&E	.007	1	.007	2.34
Residual	.603	193	.003	
Total	1.585	263		

*Significant at 5% level.

**Significant at 1% level.

TABLE II

	MEANS FOR WORD DIVERSIFICATION IN TYPE-TOKEN RATIOS				P*	U**
	Female	Male	Writing	Speaking		
Sex	.52	.50				
Groups			.55	.47		
Emotion					.52	.50
Males					.51	.49
Females					.53	.51
Writing					.56	.55
Speaking					.48	.46

*Pleasant Material

**Unpleasant Material

The Treatment of the Data

The raw data obtained were treated statistically by using an analysis of variance¹⁶ to test the significance of the factors involved (See Table I).

The Reliability of the Data

The recording, tabulating, and counting required in this study were quite extensive. The raw data for every tenth subject were checked by a person other

than the one assigned to the main task of this phase of the work. The same type of procedural checks were followed in handling the statistical computations.

RESULTS

Method (writing-speaking) is significant at the 1 per cent level as indicated by the F-value 147.56 (Table I).

In Table II the Means of the Type-token Ratios as given in basic data for Table I assist in interpreting the direction of the data; i.e., the higher the

¹⁶ Cyril H. Goulden, *Methods of Statistical Analysis*, 2nd ed. (New York, 1952), p. 63ff.

mean the greater the word diversification.

Sex is significant in word diversification at the 5 per cent level of confidence as indicated in Table I. Females have a slightly higher word diversification than males as indicated in results as shown in Table II.

Emotional tone of material (pleasant-unpleasant) is significant at the 5 per cent level of confidence as shown in Table I. As shown in Table II pleasant material has a slightly higher value over that for unpleasant material.

CONCLUSIONS

(A) Method (impromptu writing vs. impromptu speaking) is a significant factor in word diversification: writing produced more word diversification than speaking. (B) Sex influences the writing-speaking diversification: females have greater word diversification than males. (C) Emotional tone of material (pleasant, unpleasant) is a significant factor in the diversification of words in the writing-speaking situation: pleasant material produced greater word diversification than unpleasant.

A TABULAR SUMMARY OF THE JOURNALS OF THE SPEECH ASSOCIATION OF AMERICA: 1935-1958

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THE June, 1935, issue of *The Quarterly Journal of Speech* contained an editorial by Franklin H. Knower entitled *Twenty Years of the Quarterly Journal of Speech*.¹ The author wrote:

The study of *The Quarterly Journal of Speech* here reported was undertaken with the idea of ascertaining certain facts regarding the sources and nature of the articles published. Wherever it seems significant, the data have been analyzed by five-year periods in order that developments in the field might be noted. The data thus may be said to reflect, in a collective way, not only the publication activities of various members and groups of members within our society, but also the interest and changes of interest in its members.²

The following tabular summary begins where the Knower study concluded—1934. The purpose remains the same. The procedure is comparable. By necessity, the scope has been enlarged to include *Speech Monographs* (founded 1934) and *The Speech Teacher* (founded 1952).

A total of 2804 articles has appeared in the three official periodicals of the Speech Association of America through December of 1958. Of this total number of articles, 692 were published during the first twenty years in *The Quarterly Journal of Speech*. The concern here is with the remaining 2112 articles: 1390 published in *The Quarterly Journal of Speech* (1935-1958), 402 published in *Speech Monographs* (1934-1958), 320

published in *The Speech Teacher* (1952-1958).

Table I lists the 21 most frequent contributors and the distribution of their contributions. During the past twenty-four years the contributions of 1344 different individuals have been published.

TABLE I
PERSONAL SOURCES OF CONTRIBUTIONS

Articles	Most Frequent Contributors	Periodicals		
		QJS	SM	ST
38	Knower, F. H.	10	26	2
18	Crocker, L.	13	1	4
17	Dow, C. W.	3	13	1
15	Black, J. W.	5	10	0
14	Auer, J. J.	5	8	1
13	Haberman, F. W.	7	6	0
13	Oliver, R. T.	10	0	3
11	Gray, G. W.	8	1	2
11	Crowell, L.	2	6	3
10	Bryant, D. C.	9	0	1
10	Ewbank, Sr. H. L.	9	0	1
10	Reid, L. D.	8	1	1
10	Wallace, K. R.	7	1	2
9	Braden, W. W.	6	2	1
9	Brigance, W. N.	8	0	1
9	Lomas, C. W.	7	1	1
9	Thompson, W. N.	5	4	0
8	Brandenburg, E.	5	2	1
8	Bryngelson, B.	4	1	3
8	Gilkinson, H.	4	4	0
8	White, E. E.	4	2	2

The total for the first twenty years was 370. The 1935 report indicated that over 65 percent of the individuals contributing to *The Quarterly Journal of Speech* had contributed only once. This percentage remains unchanged.

A list of the most frequent contributors dated from the beginning (1915) would read as follows: Knower (40), Crocker (27), Everett L. Hunt (20), Gray (20), Dow (17), Bromley Smith (15), Robert West (15), Charles H. Woolbert

¹ Franklin H. Knower, "Twenty Years Of *The Quarterly Journal of Speech*," *The Quarterly Journal of Speech*, XXI, (April, 1935), 403-409.

² Knower, *op. cit.*, p. 403.

TABLE II
COLLEGIATE SOURCES OF CONTRIBUTIONS

Articles	Institutions	Periodicals		
		QJS	SM	ST
88	Ohio State University	39	36	13
73	Northwestern University	49	15	9
71	University of Illinois	46	22	3
66	University of Wisconsin	48	15	3
64	State University of Iowa	40	20	4
60	University of Minnesota	28	26	6
49	University of Michigan	36	8	5
49	University of Washington	21	17	11
39	Michigan State University	11	18	10
38	University of California —Los Angeles	20	7	11
36	Brooklyn College	26	8	2
36	Cornell University	27	8	1
34	Pennsylvania State University	20	4	10
30	University of Missouri	24	2	4
29	College of the City of New York	23	5	1
29	Louisiana State University	23	3	3
28	Purdue University	11	14	3
24	Western Reserve University	11	12	1
23	Washington University	19	2	2
22	Stanford University	17	5	0
22	University of California Berkeley	18	1	3
21	University of Colorado	11	7	3
21	Queens College	9	4	8
20	Denison University	15	2	3
20	University of Pittsburgh	8	5	7
20	University of Southern California	12	8	0
18	Columbia University	18	0	0
18	New York University	13	1	4
16	University of Denver	10	4	2
14	Oberlin College	11	2	1

(15), Black (15), Oliver (15), James O'Neill (14), Auer (14), Bryant (13), Haberman (13) and Brigance (13).

Table II presents data on the sources and frequency of contributions from the thirty collegiate institutions with the highest number of published papers and a listing of the periodical sources of these contributions. During the past 24 years 352 institutions contributed 1931 articles whereas the earlier study showed 133 institutions contributing 555 articles. *Almost three times as many institutions contributed over three times as many articles as compared to the first twenty years.*

Table III presents data on the general sources of contributions by five-year periods. A comparison with the 1935 report, with the first figure in each case representing the first twenty years, shows the following: Public Schools—3.8% vs. 2.2%, High Schools—8.4% vs. 5.8%, Colleges—77.6% vs. 81.3%, Miscellaneous—10.2% vs. 10.7%. During the past 14 years the number of articles appearing in the *Quarterly Journal of Speech* steadily decreased while the number of articles in *Speech Monographs*

TABLE III
GENERAL SOURCES OF CONTRIBUTIONS

Period	Public School Systems			High Schools			Colleges			Miscellaneous			Total		
	QJS	SM	ST	QJS	SM	ST	QJS	SM	ST	QJS	SM	ST	QJS	SM	ST
1935-39*	17	0	..	54	2	..	238	47	..	33	1	..	342	50	...
		4.3%			14.3%			72.7%			8.7%			(392)	
1940-44	2	1	..	25	0	..	293	50	..	56	1	..	376	52	...
		0.7%			5.9%			80.1%			13.3%			(428)	
1945-49	7	0	..	10	0	..	255	86	..	64	6	..	336	92	...
		1.6%			2.3%			79.7%			16.4%			(428)	
1950-54**	1	0	7	0	1	10	168	100	106	31	1	6	200	111	129
		1.8%			2.5%			86.9%			8.8%			(440)	
1955-58	0	0	13	0	1	19	127	93	145	9	4	14	136	97	191
		3.0%			4.7%			86.0%			6.3%			(424)	
Total	27	1	20	89	4	29	1081	385	251	193	13	20	1390	402	320
		2.2%			5.8%			81.3%			10.7%			(2112)	

*Includes Volume I—*Speech Monographs*, 1934.

**Contributions from *Speech Teacher* start with Volume I, 1952.

and *The Speech Teacher* gradually increased.

The regional sources of the contributions are reported in Table IV. A comparison with the 1935 report shows

TABLE IV
REGIONAL SOURCES OF CONTRIBUTIONS

Region	Colleges	Other Sources	Total
East	291 77.0%	87 23.0%	378 17.9%
Mid-West	948 85.6%	159 14.4%	1107 52.4%
South	184 83.6%	36 16.4%	220 10.4%
West	305 83.8%	59 16.2%	364 17.2%
Miscellaneous			43 2.0%

the following: East—33.1% vs. 17.9%, Mid-West—45.2% vs. 52.4%, South—4.9% vs. 10.4%, West—13.4% vs. 17.2%.

Knower's contention, in his 1935 report, that *The Quarterly Journal of Speech* was not a magazine for the college teacher only is again substantiated. Articles were classified on the basis of the extent to which they were apparently prepared for and of value to any

specific group of members. Knower's analysis indicated that 79.4 per cent of the articles were pertinent to speech teachers at all levels. Table V shows that during the past 24 years 87.3 per cent of the articles were pertinent at all levels.

Table VI represents the distribution of articles as applicable to the seven areas of classification indicated in the *Index* published by the Speech Association of America. This means that any particular article could be classified under more than one area; consequently, the sum of the total number of articles appearing under each heading exceeds the total number of articles published and the percentages exceed 100. Of the four areas least represented in the *Association's* periodicals, three have established periodicals since 1935 (*Journal of Speech and Hearing Disorders*—1936, and *Journal of Speech and Hearing Research*—1958; *Educational Theatre Journal*—1947; *Journal of Broadcasting*—1956). The 1935 report indicated "*The Quarterly* is largely a journal devoted to the general problems of Speech education, with problems of the fundamentals of speech and rhetoric and pub-

TABLE V
CONTENT VALUE FOR SPECIAL GROUPS

Period	Grades			High School			College			General		
	QJS	SM	ST	QJS	SM	ST	QJS	SM	ST	QJS	SM	ST
1935-39*	14 3.6%	0	..	49 12.5%	0	..	14 3.6%	0	..	265 80.3%	50	...
1940-44	6 1.4%	0	..	27 6.3%	0	..	14 3.7%	2	..	329 88.6%	50	...
1945-49	3 0.7%	0	..	16 3.7%	0	..	5 1.2%	0	..	312 94.4%	92	...
1950-54**	1 2.3%	0	9	1 5.3%	0	22	3 2.3%	0	7	195 90.1%	111	91
1955-58	1 2.8%	0	11	13 9.6%	0	28	11 6.1%	3	12	112 81.5%	95	141
Total	25 2.1%	0	20	106 7.4%	0	50	47 3.4%	4	19	1213 87.3%	398	231

*Includes Volume I—*Speech Monographs*, 1934.

**Contributions from *Speech Teacher* start with Volume I, 1952.

TABLE VI
CONTENT TREATED IN ARTICLES

Period	Fundamentals			Rhetoric and Public Address			Interpretation			Speech and Hearing			Radio-TV			Education			Dramatics		
	QJS	SM	ST	QJS	SM	ST	QJS	SM	ST	QJS	SM	ST	QJS	SM	ST	QJS	SM	ST	QJS	SM	ST
1935-39	103	32	..	41	10	..	32	1	..	37	5	..	4	0	..	208	10	..	38	1	..
	30.1	64.0	..	1.2	20.0	..	9.4	2.0	..	10.8	10.0	..	1.2	60.8	20.0	..	11.1	2.0	..
		34.4%			13.0%			8.4%			10.7%			1.0%			55.6%			9.9%	
1940-44	121	26	..	76	4	..	10	1	..	27	8	..	21	1	..	225	25	..	36	5	..
	32.2	50.0	..	20.2	7.7	..	2.7	1.9	..	7.2	15.4	..	5.6	1.9	..	59.8	48.1	..	9.6	9.6	..
		34.3%			18.7%			2.6%			8.2%			5.1%			58.4%			9.6%	
1945-49	97	43	..	69	28	..	22	1	..	24	4	..	20	5	..	165	44	..	44	8	..
	28.9	46.7	..	20.5	30.4	..	6.5	1.1	..	7.1	4.3	..	6.0	5.4	..	49.1	47.8	..	13.1	8.7	..
		32.7%			22.7%			5.4%			6.5%			5.8%			48.8%			12.1%	
1950-54	49	47	19	71	36	1	16	4	5	6	4	9	6	1	3	71	39	111	23	9	2
	24.5	42.3	14.7	37.0	32.4	0.8	8.0	3.6	3.9	3.0	3.6	7.0	3.0	0.9	2.3	35.5	35.1	86.0	11.5	8.1	1.6
		26.1%			25.2%			5.7%			4.3%			2.3%			50.2%			7.7%	
1955-58	21	29	20	62	40	35	12	1	12	2	6	22	5	6	8	32	34	132	21	4	11
	15.6	30.2	10.5	45.9	41.7	18.4	8.9	1.0	6.3	1.5	6.3	11.6	3.7	6.3	4.2	23.7	35.4	69.5	15.6	4.2	5.8
		16.6%			32.5%			5.9%			7.1%			4.5%			47.0%			8.6%	
Total	391	177	39	322	118	36	92	8	17	96	27	31	56	13	11	701	152	213	162	27	13
	28.1	44.0	12.2	23.2	29.4	11.3	6.6	2.0	5.3	6.9	6.7	9.7	4.0	3.2	3.4	57.6	37.8	75.9	11.7	6.7	4.1
		28.7%			22.5%			5.5%			7.3%			3.8%			51.9%			9.6%	

TABLE VII
METHOD USED IN SCREENING DATA

Period	Experiments and Experimental Technique			Report of Activities			Research in Literature			Survey and Bibliographies			Theoretical Discussions		
	QJS	SM	ST	QJS	SM	ST	QJS	SM	ST	QJS	SM	ST	QJS	SM	ST
1935-39*	54 15.8	31 62.0 21.7%	..	56 16.4	0 0 14.3%	..	46 13.5	11 22.0 14.5%	..	20 5.8 6.6%	6 12.0 6.6%	..	166 48.5 42.9%	2 4.0 42.9%	..
1940-44	35 9.3	33 63.5 15.9%	..	12 3.2	0 0 2.8%	..	50 13.3	10 19.2 14.0%	..	10 2.7 4.4%	9 17.3 4.4%	..	269 71.5 62.9%	0 0 62.9%	..
1945-49	17 5.0	42 45.7 13.8%	..	46 13.7	2 2.2 11.2%	..	29 8.6	36 39.1 15.2%	..	15 4.5 6.3%	12 13.0 6.3%	..	229 68.2 53.5%	0 0 53.5%	..
1950-51**	16 8.0	46 41.5 14.8%	3 2.3	24 12.0	1 0.9 8.1%	11 8.5	25 12.5	40 36.0 15.0%	1 0.8	9 4.5 13.0%	23 20.7 13.0%	25 19.4	126 63.0 49.1%	1 0.9 49.1%	89 69.0
1955-58	5 3.7	55 57.3 16.9%	11 5.8	9 6.7	0 0.0 12.8%	45 23.7	52 38.5	23 23.9 18.5%	3 1.5	1 0.7 9.5%	17 17.7 9.5%	22 11.6	64 47.4 41.3%	1 1.0 41.3%	109 57.4
Total	127 9.2	197 50.4 16.1%	14 4.4	147 10.6	3 0.8 9.8%	56 17.6	202 14.6	120 30.7 15.6%	4 1.3	55 3.9 8.1%	67 17.1 8.1%	47 14.7	854 61.7 50.4%	4 1.0 50.4%	198 62.0

*Includes Volume I—*Speech Monographs*, 1934.

**Contributions from *Speech Teacher* start with Volume I, 1952.

lic address receiving considerably more attention than any of the other subfields."³ As of 1958, this was not only true of *The Quarterly Journal of Speech* it was also true of the collective distribution of all articles published in the three journals.

During the past 24 years, the most significant change appears in *The Quarterly Journal of Speech*. This change is in reference to percentage of articles appearing which are applicable to the area of Rhetoric and Public Address. During the 1935-39 period, 1.2 per cent of the articles published in *The Quarterly Journal of Speech* were applicable to Rhetoric and Public Address. This percentage reached a high of 45.0 per cent during the 1955-58 period.

Table VII classified articles according to the nature of the method used in securing data. Although the method of classification used here is admittedly

arbitrary and in no sense definitely evaluative, it does serve to focus attention on kinds of material offered for publication. A comparison between the past 24 years with the first 20 years shows the following: Experiments and Experimental Technique—7.3% vs. 16.1%, Report of Activities—8.9% vs. 9.8%, Research in Literature—13.2% vs. 15.6%, Surveys and Bibliographies—8.1% vs. 8.1%, Theoretical Discussions—61.5% vs. 50.4%.

This, then, has been a tabular summary of the Association's three periodicals—*The Quarterly Journal of Speech*, *Speech Monographs*, and *The Speech Teacher*. Additional testimony to the publication activity of our profession can be found in Psychological, Sociological, Historical, Educational and Industrial journals (to name but a few), as well as in the four regional speech journals and the specialized journals within our discipline.

³ Knower, *op. cit.*, p. 404.

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The Ohio State University

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